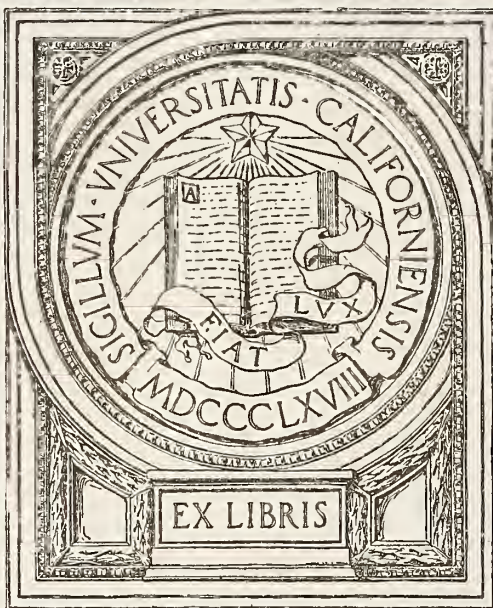
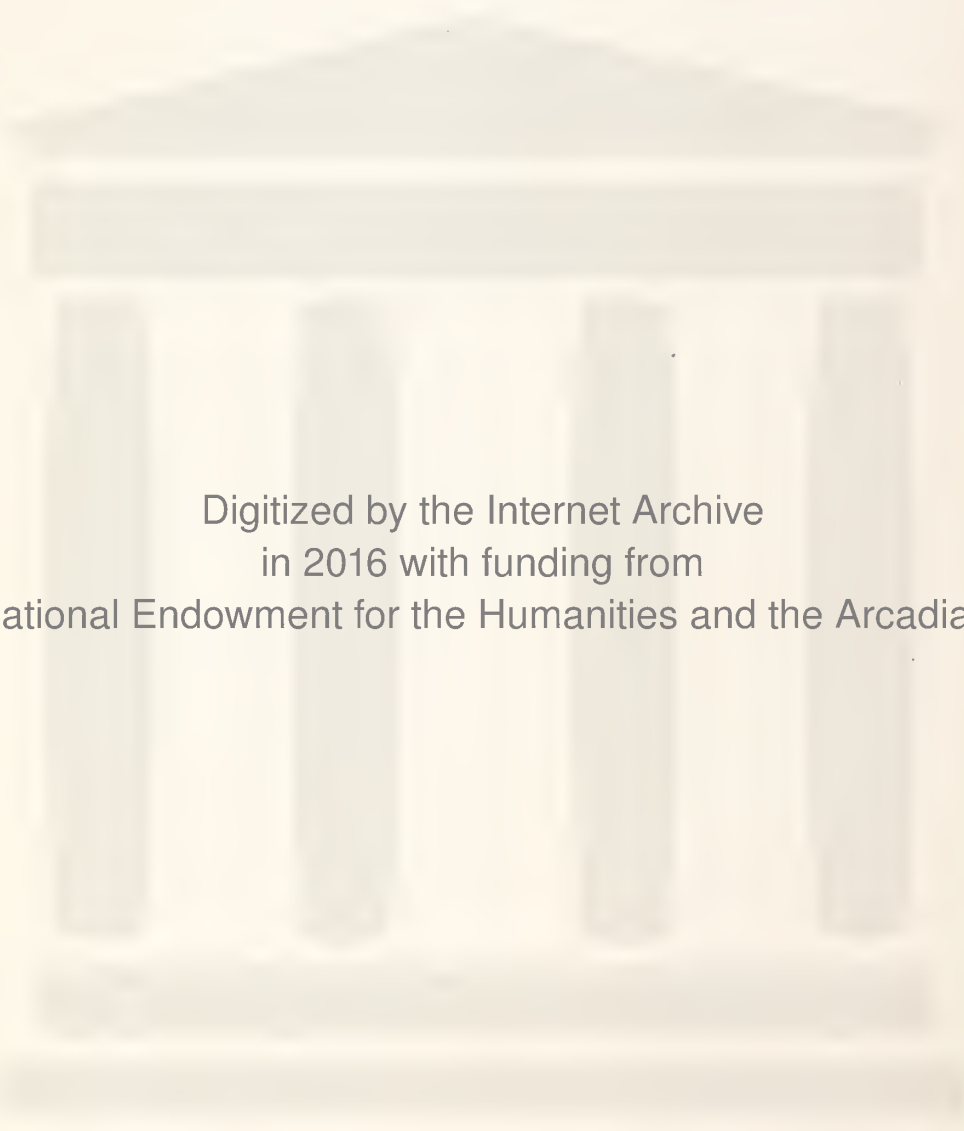


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A MASTER SURGEON*

FREDERICK A. COLLER, M. D.
ANN ARBOR, MICHIGAN

A surgeon is in the proper sense of the word one who does manual work. The original Greek word from which it is derived was used to designate a cook, a player of the harp, as well as a physician who worked with his hands. Little by little the word lost its vague and general application and in the works of Celsus early in the Christian Era the term is used in a precise fashion to designate the physician who treats certain lesions by a manual act. Since that time the word has been deformed in many languages but always meaning one practicing that branch of therapeutics which necessitates the use of the hands and instruments. From humble beginnings it has become a scientific technique, precise in its execution and constantly more definite in its results. When one considers the amount of attention lavished on the medical sciences from earliest times their progress has been slow, but the surgery of today is a science taking its true origin in the middle of the last century. The very factors that have widened its scope and

increased its safety have by a curious paradox actually tended to increase its mortality and add factors of danger. The further surgery advances, the more delicate and precise its technique becomes, making a tool that should be used only with the greatest discretion and judgment by the trained hand. Before Listerism and anesthesia the enormous immediate dangers inherent in any surgical procedure required a stoutness of heart and background of training that kept surgical practice in the hands of the qualified few. The removal of the fear of sepsis and the necessity for speed and the reduction of sur-

* Presented at the Annual Meeting of the Michigan State Medical Society at Detroit, September 27, 1928. Chairman's address Surgical Section.

* Frederick A. Coller, M. D., graduate Harvard University Medical School, 1912; resident surgeon Massachusetts General Hospital, 1914-15. Professor of Surgery, University of Michigan Medical School.

gical operations to a formula allowed surgery to be practiced by anyone with a patient. The greater pecuniary rewards associated with this type of work furnished the incentive for its execution. The profession and their patients have suffered by this abuse of a practice requiring great judgment, broad experience and a long discipline, by the occasional untrained operator. This fact has been generally recognized and led to the formation of the American College of Surgeons, who have done much to correct the gross abuse of surgery by their standardization of hospitals and by the requirement of special training in their candidates. Their efforts along these lines will undoubtedly bear greater fruit as time goes by. That there is need of improvement is shown graphically by a study of the vital statistics by Willis. He shows that the mortality following all of the common operations has increased since the war, due, in his opinion, to the great increase in the number of partially trained men attempting to do surgery since that time. Much thought has been devoted to the formulation of the proper training required for the making of a surgeon and an increasingly large number of well qualified surgeons are being turned out each year. Many of these men find that after years of training, when they start their practice, that it comes all too slowly because they cannot compete with men with inferior training who will split fees. There is no doubt but that the greatest factor destroying the incentive to good training and encouraging a low grade of surgical performance is fee splitting. Until this situation is rectified we will not arrive at the highest surgical standards. We cannot remain pessimistic when we note the solid progress surgery is making and we can become positively enthusiastic when we see the great numbers of our profession who live up to the highest traditions of the craft. It is in the lives and works of these men that surgery reaches its greatest glory, while the progress of surgery is best studied in their biographies rather than in a criticism of trespassers in our fields. No field of human endeavor offers greater or more stimulating personalities for study and emulation than does surgery and in this study we find answers to the problems that vex the present. In proof of these assertions I will recall to you the life and works of one who represented the highest attributes of our profession and whose personality and influence were second to none in de-

veloping the ideals and science of surgery in this country, Theodore A. McGraw. A study of his life gives a perspective on surgical progress during all of its vital phases and his character, activities and teaching ennoble our profession.

Theodore A. McGraw was born in Detroit in 1839, the son of Alexander C. and Susanna Walker McGraw. He attended a private school in Detroit conducted by Mr. Bacon, later going to the public schools. After finishing his preparatory work he attended the University of Michigan in 1858-1859. There were at that time no high schools and the universities and colleges were, in his own words, "indifferent high schools masquerading under more imposing names." At that time the University of Michigan had a unique feature, a chemical laboratory for students that proved a true cradle for scientists and again in his own words, "I have always regarded it as one of the happiest events of my life that when a student in the University I was influenced by Professor Douglas to enter his laboratory for practical instruction." Undoubtedly his scientific viewpoint was initiated here in Douglas' laboratory. He received the degree of Bachelor of Arts in 1859. Intending to become a lawyer, in the latter part of this year he went to Germany and commenced his studies in jurisprudence in the University of Bonn. Here he became acquainted with the professor of anatomy, and because of this contact he began the study of anatomy. His keen interest in this led to a change in his plans and he left law and began the study of medicine. After two semesters in Bonn he went to Berlin, where he continued his studies until 1862. Because of the outbreak of the Civil War he left his medical studies and returned home to support the cause of the North. Convinced of the advisability of completing medical work, he entered the College of Physicians and Surgeons in New York and received his degree of Doctor of Medicine in 1863. He was shocked at the laxity of method in the American schools. He said: "I found to my amazement that admission to the college, as regards medical qualification, was nearly free to all comers. In the graduating class were men who had spent their first two years of study in a preceptor's office. Everyone was obliged to take two courses of lectures, but as each course was only four months long, the two could be taken in one year. There were no obligatory laboratory courses except anatomy and all

instruction was given by didactic lectures. There was no division of the classes and the man who spent three years in a medical school was obliged to listen three times to the same talk."

After receiving his medical degree he took a position as contract surgeon in the United States Army and was stationed in Jefferson Barracks in Missouri. The work here was routine in character and one gathers that he was disappointed in the lack of opportunity for service and self-improvement. After three months of this work he applied for a commission as surgeon of volunteers, passed his examination and entered active service as assistant surgeon with the rank of first lieutenant. From this time until the end of the war his experiences were stirring. He was first in charge of a surgical ward in the military hospital in Chattanooga, later having charge of a smallpox hospital. He saw the Battle of Lookout Mountain from his hospital station. Late in the war he was attached to the staff of General J. H. Wilson, the federal cavalry leader, and was with him in his raid through Alabama. Being left behind in charge of some wounded, he was captured by General Forrest, but was soon released on parole. The war ending, he left military life, returning to Detroit to take up the practice of his profession. He thus started with a superb equipment, a technical training far better than was usual in those days, and with the initiative and confidence acquired by his varied intensive military experience. The influence of the young surgeons returning from their war experience was a profound one and changed the character of medical practice in the next generation. Many of them realized the inadequacies of the preceptorial system under which they had been educated and in the desire to get a place in which to develop their knowledge, actually founded medical schools. The great rise in the number of schools at this time attests to this truth and in most instances the proprietary medical schools that later were so severely and perhaps justly criticised, had their inception more often in the desire of a group of men for medical advancement and self-improvement than for financial betterment. The time came when this type of school could no longer cope with the increasing demands of medical education and they disappeared, but they mark a step between the older preceptorial system and the modern school of medicine.

Dr. McGraw's experience in Germany

had made him profoundly dissatisfied with American medical schools and in 1869 he, with others, founded the Detroit College of Medicine as a summer school. In 1871 he was invited to accept the chair of Surgery in the University of Michigan, which he did for one session. Here he found conditions similar to those existing in New York, with the exception of the laboratory work in chemistry. The situation was far from satisfactory. The faculty wished to raise standards, but was afraid they would lose their students if they did, and thus lose their only income, that from students' fees. He had enough material for a weekly clinic, but no place to treat patients after operation. The endeavors of the faculty to make any changes in the system met with determined opposition from the politicians and the public and Dr. McGraw then devoted his entire attention to the Detroit College of Medicine, where he was Professor of Surgery until he retired. After the reorganization of this school in 1885, he became president and dean, holding these positions until his retirement in 1915. In speaking of the impulses that led to these activities, he says: "I had discovered in my two years of army activity that I was deficient in that exact knowledge of anatomy that was essential to good surgery. The advent of antiseptic and aseptic surgery, besides, had opened a new field for operative work, that of the abdomen, which demanded a study of anatomical relations, which had never been taught in the schools. The period was marked by the appearance of new operations which had been devised and perfected during operative work on the lower animals. It seemed to me to be imperative, if I were to advance in my profession, that I should have facilities for dissections and other work that can be found only in a medical college. There was another reason in that usual desire to teach, so common in the medical profession since the time of Hippocrates."

He thus early had the desire for self-improvement, to experiment and to teach and to fulfill this desire he founded a medical school. Early in his career he began to write and one can hardly find a volume of the old *Peninsular Journal of Medicine* or *The Physician and Surgeon*, and at a later date, the *Detroit Medical Journal*, without many case reports, clinical papers and experimental observations from his pen. He soon became a national figure because of his pioneer work in abdominal surgery, particularly intestinal anastomo-

sis. In 1891, Dr. McGraw delivered the chairman's address before the Section on Surgery and Anatomy, "Upon the Use of the Elastic Ligature in the Surgery of the Intestines," and his reputation became international. This work was no happy chance, but was the result of several years of careful experimental work, carried on with his assistants, Ives, Ireland, Hickey and Warren. His writings show a wide acquaintance with the literature and a protean interest in surgery. Hardly a subject of surgery but what was illuminated by him, especially one notes his interest in cancer and intestinal obstructions. As an instance of his daring pioneer surgery we may recall that he did the thirty-seventh operation on goitre done in this country, in 1882. The case afterwards developed myxoedema and was examined by Sir William Osler at the request of Dr. McGraw.

His success in teaching is attested by a great number of prominent able men who received their early training and enthusiasm at his hands and by the almost idolatrous worship they had for him. One of them states: "The student felt the magnetism of his personality, his erudite diction was singular, his faculty of imparting knowledge exceptional, his descriptions, analysis, discourse and persuasion were a revelation, his disquisitions, especially those on tumors, were well correlated masterpieces and classics of their time."

He always preached longer and more careful training for surgeons and condemned the attempt to operate without sufficient training and education. In his words: "Modern methods of surgery admit of such radical procedure that the young surgeon is inclined to lose his respect for the human body. He thinks he can cut in at will and produce sweeping cures immediately. Patients share this notion to a large extent and are eager to submit to major operations which they have come to regard as trivial. Special equipment should be required of the surgeon. The young graduate in medicine should not

be permitted to exercise his zeal for operating until he has perfected himself through assisting older men. I believe a law calling for a special degree would be of value."

His relation to his patients was that of a Christian gentleman always ready to give all he had of time, skill and sympathy to all who asked.

In person modest, almost to a fault, upright, sympathetic with the weak, but quick to rebuke a wrong. He received every civic and scientific honor that could be given by the profession and his friends when he died in September, 1921. It seems that he can be epitomized in the definition of a surgeon written by Guy de Chauliac in the fourteenth century: "The conditions necessary for a surgeon are four: first, he should be learned; second, he should be expert; third, he must be ingenious; and fourth, he should be able to adapt himself. It is required for the first that the surgeon shall know not only the principles of surgery, but also those of medicine in theory and practice; for the second, that he should have seen others operate; for the third, that he should be ingenious, of good judgment and memory to recognize conditions; and for the fourth, that he be adaptable and able to accommodate himself to circumstances. Let the surgeon be bold in all sure things, and fearful in dangerous things; let him avoid all faulty treatments and practice. He ought to be gracious to the sick, considerate to his associates, cautious in his prognostications. Let him be modest, dignified, gentle, pitiful and merciful; not covetous nor an extortionist of money; but rather let his reward be according to his work, to the means of the patient, to the quality of the issue and to his own dignity."

So long as our profession can produce master surgeons such as Theodore A. McGraw as examples for newer generations of surgeons, our only errors will be when we deviate from the path they have blazed.

SEPTIC SORE THROAT SIMILAR TO SCARLET FEVER

Septic sore throat, the disease that is responsible for the present large loss of life in the small Massachusetts village of Lee, is caused by a micro-organism very similar to the one causing scarlet fever. Both are members of the streptococcus family. They can only be differentiated by a complicated test which must be carried out on a human subject, officials of the U. S. Hygienic Laboratory said recently. The present epidemic is by no means the first of the kind. Septic sore throat has occurred as an epidemic in this country and England since 1875. Generally the milk supply was the agent that spread

the disease. In 1911 over a thousand cases with 38 deaths were reported in Boston, while Chicago, in the same year, had 10,000 cases within a few weeks. Baltimore had 3,000 cases with 30 deaths in 1912. The milk becomes infected through the humans who handle it, and not through the cow, as in the case of tuberculosis. Cows may become infected with the organism, but it does not cause disease in them and such infection of the animal, as well as the contamination of the milk, is due to contact with infected humans, for this organism is not native to cows.—Science Service.

BLADDER PARALYSIS; ETIOLOGY, PROGNOSIS AND TREATMENT*

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In the wide range of disease, some apparently simple and easily recognized problems remain unsolved; with accepted ideas as to treatment, their real nature defies us and certain elements of danger lie concealed, except for a glimmer occasionally perceived by the practitioner most familiar with the anatomical segment concerned. For each specialty, medical or surgical, one can name one or more of such enigmata; in genito-urinary practice we grapple with several, one of which is the paralytic bladder.

Paralysis suggests the loss of the stricken patient's control of bladder function; it should also include as basic defining ideas, the possible derangement of the entire urinary system, the likelihood of sex loss, especially in the male, and the bearing of all these factors, upon the individual's recovery. Paralysis literally means loss of muscle (motive) power, and can be fitted to the bladder in mechanical terms, for this structure's fortunate ability to dam back its own contents until an instant fortuitous for emptying and then by a shifting of control, expel its accumulation, is a great natural boon. Conversely, disturbed balance of this muscle control, whether a true paralysis or not, brings misery and often dangerous sequelae. Incontinence, bed-wetting are miserable; real and permanent loss of control of the bladder, unless properly understood and cared for, leads to fatal renal destruction.

To differentiate between true paralysis of the bladder and partial or transient loss of functional control, whether illustrated by bed-wetting, or post-operative incontinence due to muscle loss, is at times very difficult. It is easy to know a bladder is full and painful, or constantly leaking its contents, and too easy to use a catheter for temporary relief. Cabot has shown that the normal bladder is extremely tolerant; the passage of catheters is a procedure, simple and relatively safe, but the use of any instrument in a bladder which has lost its innervation means infection and endangers life.

We are confronted with the patient unable to void following operation; is that paralysis? Again, the prostatic comes to us with retention, and likewise with dribbling; are we dealing here with paralysis? The tabetic often finds himself insensible to bladder filling or emptying; this condition is not far removed from a transverse myelitis which is surely followed by true bladder paralysis. Other types of impaired function constantly occur so that our problem, from the standpoint of etiology, prognosis and treatment, becomes complex, de-

manding careful survey and intimate differentiation.

Further, by way of defining true bladder paralysis and keeping in mind the causes enumerated below, let us limit ourselves to an exact clinical picture, that of vesical passivity due to loss of both inhibitory and contracting mechanisms; not a complete loss since then true incontinence occurs, no treatment is indicated or helpful, and one assumes approaching death. By contrast, neither the pseudo-paralysis due to over distention following operations, or shock, or enuresis, is true paralysis, although a temporary false balance of the voluntary and involuntary control is responsible. Additional circumstances which lead to confusion and sometimes disaster, are the many types of retention, especially in the male, from urethral stricture, herniae, prostatic disease, congenital malformations, and trauma.

Bladder physiology is too little understood, else the deviations of paralysis would be better known. While the bladder fills, its walls are relaxed, its sphincter tight, both dependent upon the involuntary mechanism, the sympathetic and parasympathetic control. In emptying, the bladder walls contract, the sphincter relaxing, or being pulled upon by the trigonum muscle, as shown by Wesson, again by involuntary control augmented by the voluntary accessory muscular activity which has its two-fold plan in relaxation of the external sphincter (in the male) and contraction of the abdominal muscles and the bulbourethralis muscle (in the male). To postpone micturition, the voluntary sphincter may contract, bearing the burden of pressure alone against continued or repeated sensory stimuli to the cord portion of the emptying mechanism. The lack of a well-developed voluntary sphincter in the female resolves itself into a higher percentage of incontinence in that sex and a greater tendency to frequency and urgency of micturition. Nature has offset this

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to a degree (theoretically) by granting to the female a slightly larger normal bladder capacity, although this supposition is no longer accepted and experiments have proven the male bladder larger.

Three years ago Potter made intravesical pressure determinations following the resection of both sacral nerves in dogs and found that after this radical interference with bladder innervation, no changes occurred in the pressure readings, even months following operation. The animals micturated at intervals and showed no evidence of bladder or renal damage. Despite the known variations in nerve supply with different animal species, it is difficult to grasp any reasonable basis for this lack of change. Unfortunately, Potter did not, or could not report whether the animals voided entirely involuntarily. This, however, must have been the case, the bladders being automatic, their muscular activity based upon intrinsic bladder wall innervation. He refers to Harrington's experiments with cats, which showed complete abolishment of micturition after division of the posterior sacral roots. Section of the nerve roots was followed by retention of urine and then feeble dribbling with residual urine. Quoting Potter: "The mechanism of the bladder has not been explained by any of the experimental work that has been carried out." Thus we see the need of further investigations of bladder physiology which in turn will widen our knowledge of bladder disease. Rose, Kreutzmann, Moore, Potter, Ravasini, Hirsch, McClintic, and others have made recent and valuable contributions to the literature on this subject.

As far as possible, I should like to limit the following clinical considerations to instances in which there is radical interference with the normal innervation of the bladder. The three-fold nature of defective innervation, namely, motor, sensory and trophic disturbances, naturally render this proposed limitation difficult. Furthermore, such elements as bladder neck obstruction enter in with the opportunity for secondary nerve tract involvement. The fact that partial paralysis may exist for years, recognized only with the onset of infection, must also be borne in mind.

It seems necessary, therefore, to further limit ourselves to a study of bladder paralysis, defined as a state which, progressing to its fullest possible extent, results in true and complete incontinence, a permanent loss of all controlling innervation. We know that such a clinical picture is not al-

ways the forerunner of, or coincident with impending death. If the nerve disturbance is sensory only, the patient knows no desire to empty his bladder, hence retention occurs. The next step is the overflow, an index to motor loss; finally we can visualize complete automaticity as the end-result. This step-like sequence, retention, paradoxical incontinence as represented in the so-called automatic bladder, and complete or as designated above, true incontinence, furnishes our basis for clinical diagnosis and therapy.

ETIOLOGY OF BLADDER PARALYSIS

1. Congenital: Incomplete development of bladder muscle and of sphincter muscle, especially, associated often with epispadias, partial or complete, giving a varying urethral construction, is a common cause of incontinence (paralysis). Most victims of these deformities do not survive beyond infancy, although one occasionally sees complete epispadias in an adult. We may group with this class of causative factors all grades of spina bifida which by nerve trunk pressure of maldevelopment allow degrees of paralysis.

Chute pointed out that the reason bladder symptoms are not pronounced or present at birth or in early life with spina bifida is that the spinal cord extends lower in the vertebral canal in intrauterine life than later; in the adult the cord ends and the cauda equina begins opposite the second lumbar vertebra, so the possibilities for pressure, and I would add, injury are increased, and tension occurs with the increasing disproportion in length, between the canal and the spinal cord. Chute further states that in cases of spina bifida cystica, the bladder involvement is more pronounced, and complete paralysis is likely to occur if the condition is untreated. From the diagnostic standpoint any evidence of faulty innervation in the region supplied by sacral nerves, should suggest spina bifida occulta, and vice versa, any deformity of the sacrum must arouse suspicion of incomplete cord protection and the possibility of bladder changes. Cystoscopically it is often not possible to recognize the pathology developing with spina bifida occulta so that roentgen ray studies are invaluable.

2. Acquired.

(a) Neoplasms of the brain and spinal cord. In varied location tumors are associated with bladder paralysis and the astute cystoscopist may often make the first clinical observations leading to the

diagnosis of tumor. Bladder trabeculations, without obstruction, past or present, signify a nerve trunk lesion. Nitze was perhaps the first to emphasize this in describing the so-called tabetic bladder.

(b) Injuries. The spine fracture group of cases proves most interesting; the injury must extend to the cord, cauda equina, or sacral nerve trunks, either by direct destruction or pressure. The fact that clinically one cannot determine whether a given paralysis is due to an actual lesion or to pressure, makes for conservatism in treatment as will be shown below.

(c) Syphilis. *Tabes dorsalis* presents the entire three-fold paralytic progression, i. e. retention, automatic bladder (paradoxical incontinence) and true incontinence. Often the diagnosis is made late due to the lack of subjective symptoms. Again, infections may cause recognition otherwise postponed, while finally, bladder symptoms, and cystoscopic study may be the first diagnostic findings and sufficiently clear-cut in themselves to make the diagnosis. The urologist today can easily recognize the tabetic bladder, but it must be remembered that in all tabetics, bladder changes may not have occurred at the time of any particular examination.

(d) Miscellaneous causes as listed by Kretschmer are:

- Syringomyelia.
- Multiple sclerosis.
- Post-diphtheritic neuritis.
- Myelitis.
- Hemiplegia.
- Psammomata.
- Hematomyelia.
- Pernicious anemia.

Additional items are gummata and poliomyelitis; the latter was recently discussed by Kreutzman.

In four cases of pernicious anemia Kretschmer found degrees of bladder paralysis and described it as due to cord changes and possibly infection. He quotes Woltman as stating that approximately 81 per cent of pernicious anemia cases show evidence of destruction of nerve parenchyma. In 121 cases, Woltman found 13 per cent had bladder disturbances (12 cases, 8 with incontinence, 4 with retention). Kretschmer further quoted Billings as describing the changes in the spinal cord as sclerosis of the posterior columns, either alone or associated with sclerosis of the lateral tracts. I have several times seen complete paralysis in the

final stages of pernicious anemia. Earlier manifestations are difficulty in starting the stream, later retention occurs, then incontinence. In one of Kretschmer's four cases severe bladder and kidney infection occurred following local treatment.

Supplementing the foregoing brief reference to injuries, it should be stated that certain instances of hematomyelia are unquestionably traumatic in origin. Another factor, occurring more often in the past, is the injury following intraspinal injections. In a series of eight consecutive intraspinal injections of salvarsanized serum, there were five deaths within 48 hours. Two of the remaining patients developed a transverse myelitis which was permanent and naturally followed by bladder paralysis. The exact cause of these horrible accidents was never determined; apparently it was a toxic reaction as the calamity in all seven instances occurred so promptly. I had the two surviving cases in my care for many months with the opportunity of studying the bladder phenomena. Incidentally at this same time I was studying a considerable series of spine fracture cases, observations upon which have been published by Plagge-meyer and myself.

DIAGNOSIS OF BLADDER PARALYSIS

As stated previously, dysfunction of the bladder is easily recognized; to determine the exact nature of the abnormality, however, taxes even the most experienced urologist and is inevitably linked up with the associated basic cause. The latter must not be overlooked. Again, as illustrated in prostatism and suggested here, the paralysis, a progressive disease, is often so insidious as to be an old process when first recognized. Nevertheless, both prognosis and treatment depend upon a correlation of cause, associated disease and the stage of paralytic involvement.

PROGNOSIS IN BLADDER PARALYSIS

The outlook is variable, depending upon the cause and the underlying associated pathology. Another factor is superimposed urinary infection which I maintain is usually avoidable, always dangerous, often fatal. This contention is not original, but was proven by our observations mentioned above, many times proven in the intervening years, and has been accepted as correct by many outstanding urologists and clinicians.

The uncertainty of the outcome in injury cases, especially, warrants the ut-

most care. Those appearing most hopeless often recover from the injury, but succumb to renal infection. O'Connor recently reported such a case; in this instance the desired (and sufficient) automatic bladder-emptying having been established, catheters were used and severe bladder and kidney infection occurred, later, multiple calculi and complete renal destruction. The patient recovered from the paralysis, but died of renal sepsis. All too frequently abdominal operations are performed upon patients with tabes (unrecognized), having bladder retention and apparent abdominal distention, rigidity. Pain is the only symptom considered. Obviously, then, prognosis is often based upon the practitioner's ability, and lies solely with him; far afield from injury one may call to mind recent advances in the treatment of pernicious anemia and therefore the need for caution in the handling of accompanying bladder dysfunction.

Paralysis, of itself is not fatal; the retentive type can be overcome, and complete incontinence is a relatively safe state per se.

TREATMENT OF BLADDER PARALYSIS

(a.) Treatment of the causes of paralysis is of itself important, but cannot be considered in detail here. Congenital deformities may be overcome, tumors removed, injury pressure relieved, tabes arrested, and such of the other associated diseases ameliorated as is possible in each individual case. A review of the various causes of paralysis would revive individual possibilities of improvement. In treatment, too, one must recognize the chance of combined disease, as illustrated by a tabetic with obstructive prostate. The analogy between these two conditions has been suggested and their occurrence commonly in advanced age, allies them still further. Keyes suggested prostatectomy in such a combination, to allow easier handling for necessary catheterization.

(b.) Treatment of Paralysis. This resolves itself into two phases, one a sort of prophylactic and deliberate avoidance of instrumentation, the other a program of mechanical aid for the mere emptying of the bladder, with little consideration of late results. A third phase includes certain procedures which will be enumerated, having as their end the establishment of a safe incontinence. Keyes takes the part of the patient in referring to unbearable incontinence and to an individual patient's

statement that he'd "better be a catheter man than a bag man." This attitude overlooks the perfect cleanliness and comfort of the individual with an automatic bladder (true paralysis), and the fact that persistent catheterization is inevitably linked up with ascending infection, which is surely more rapidly fatal than the worst possible back-pressure effects in the few cases where reasonably early incontinence, paradoxical or true, is postponed. I think Keyes weakens his case in quoting Barney, who stated that 50 per cent of all tabetics die of renal infection and insufficiency.

My own observations in tabetics with retention, prove that safe and practical automatic bladder-emptying can be developed, an extremely worth-while accomplishment in younger men. It is conceded that constant skillful catheterization by a physician or trained attendant, with appropriate local and internal medication, still has a place in the treatment of paralytic retention, but this method should be reserved for the eldest of tabetics and those so ill as to preclude a fair possibility of recovery from the associated injury or disease.

Confronted with bladder paralysis and having established the exact or likely cause, what is the proper procedure? If it is retention following operation, catheterization is in order; if a retention with shock, hysteria, associated with acute urethritis, prostatitis, or salpingitis, Sitz baths, opium suppositories, intravenous use of uritone, mental suggestion, all are in order. The catheter call is strong, but for a real paralysis, deadly.

With no treatment whatever, the tabetic finds he cannot void until the bladder fills completely and that at will he may by abdominal pressure (without sensation) completely empty his bladder. With no treatment the injured man, paralyzed from the waist downward begins to have an adequate overflow in 48 to 72 hours, and usually, as reported by many observers, establishes some type of incontinence in two or three weeks. For individual cases in which the retention continues to an alarming extent, certain steps hasten the overflow. Young relates how the normal tendency to automaticity may be hastened when the bladder is full, by stimulation of sensory nerves below the site of cord damage, such as stroking the leg and swabbing the penis. In his original paper on shell fracture of the spine with bladder paralysis, Plaggemeyer referred to Head's observations concerning the value of daily

massage, especially stimulating the hypogastric plexus. Head ascribed the active stimulation to emptying as due to a peripheral mass reflex and we have repeatedly seen the actual value of these simple procedures. Prostatic massage, bladder massage per rectum, prolonged actual suprapubic pressure and hot enemata are also valuable aids in bringing on incontinence, which, once begun, continues indefinitely, with an immediate decrease in blood nitrogen and increase in renal function as measured by standard dye tests.

The danger of catheterization after spine injuries, was so well known during and after the war that it was prohibited by general hospital orders both in this country and abroad, and this rule is still strictly enforced. Our civilian hospitals and we, as individuals, are duty bound to carry out the same rule today.

I should like to add one other simple step for aid in the establishment of an automatic bladder. When, with other methods exhausted, the retention has not been overcome, and especially if the patient is conscious of pressure pain, emptying can readily be accomplished by caudal injection of novocaine which relaxes the vesical sphincters, and allows immediate emptying, which may be hastened by manual abdominal pressure. I see no harm in a reasonable repetition of this anaesthesia which is, of course, not anaesthesia, but an additional paralytic agent for temporary use until the expected overflow develops. In this connection we must remember that with a paralytic bladder the internal sphincter usually loses its tone, the temporary retention (a boon in the automatic bladder), being due to compensatory closure of the external sphincter. Cystoscopically one may see the posterior urethra as part of the bladder, an accepted diagnostic sign. Once automatic overflow is established, the patient may be educated to see that his bladder empties on schedule, calling for the urinal and seeking, if necessary, the aid of massage and abdominal pressure. Later, if ambulatory, the habits of regular emptying in convenient locations, becomes as easy as that of bowel elimination.

(c.) Surgical Procedures. Some have advocated suprapubic cystostomy to combat bladder paralysis, especially in injury cases; it is often resorted to, when retention is thought to be the result of bladder injury alone. If one could definitely foresee later improvement, with relief of the paralysis, such complete drainage would

be acceptable, but with paralysis, presumably permanent, it would seem a lazy expedient. Cystostomy means cystitis, in spite of the best care, and with paralysis, ascending infection and renal sepsis. I therefore cannot accept Boyd's advice and commend it as the proper treatment for bladder paralysis.

Maintaining that complete or true incontinence, with the distasteful urinal is safer than instrumentation, for those cases with considerable life expectancy and a continued failure to develop automatic emptying or with it, having a dangerous residual, I should advocate a deliberate creation of complete and constant drainage, either by surgical destruction of the external sphincter (in the male) or by further destruction of the inhibitory innervation by means of exposure and section of remaining nerve roots. This latter procedure commends itself to the neurologic surgeon who has established analogous operations elsewhere.

Finally, the judicious use of urinary antiseptics and bladder antiseptics, the former including those now accepted for intravenous administration, furnish a valuable asset and are of supreme importance where diagnosis of the condition of the bladder requires instrumentation, or where surgery is necessary for calculi or gross suppuration.

SUMMARY

1. Bladder physiology is not sufficiently well known to make bladder paralysis easy to identify or understand. In spite of this, certain well-established facts as to the results of paralysis form a basis for proper therapy. Among these are the knowledge that paradoxical incontinence usually develops and can be hastened in its development; that with instrumentation renal infection always occurs and is frequently the cause of death.

2. For convenience the emptying of the bladder is described as the action of the detrusor mechanism and the word detrusor mechanism refers to the entire bladder musculature, which by means of its intrinsic nerve supply usually retains a considerable tonus after loss of extrinsic innervation, and responds to internal pressure as well as that of the so-called accessory apparatus specifically the abdominal muscles.

3. One essential in treatment is the care of the associated deformity, injury, or disease. The prognosis is intimately bound up with the prognosis of the associated basic cause, and the treatment likewise is

dependent upon the treatment of the accompanying disorder.

4. The desired sequence is the reasonably prompt overflow and establishment of the "automatic bladder." Certain simple procedures including repeated injections of the caudal canal with novocain, lend themselves to hasten this process. Instrumentation of all kinds should be avoided.

5. Complete incontinence is safer than any induced artificial drainage.

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WHERE PERSONALITY COUNTS

Once upon a time there was a woman who needed a doctor but she flatly refused to call in the physician who had previously attended her. Anxiously the family questioned her. He had brought her through serious illness and why must she try someone strange and unacquainted with her former condition? Reluctantly she admitted that she could not bear to have him come because he was so unsympathetic.

Surprising as it may seem in view of all that is said and written of the demoralizing effects of sympathy, the most intelligent people, once they are sick, demand sympathy and will not do without it. Given a choice between a sympathetic quack and a brusque practitioner of undoubted repute and nine times out of ten they will call the quack. Sympathy they will have, whatever the therapy.

The busy practitioner who hears complaints of all sorts from morning to night and perhaps also from night to morning is only too apt to become "hard boiled" in appearance if not in fact. A real interest in the patient's malady does not inevitably carry with it a feeling of sympathy for the patient himself. Too often the concentration upon physical disorders blinds the physician to the patient as a human being.

Pity is, of course, taboo, for no one exposed to pity can maintain his self-respect. But concerning sympathy there seems to be some difference of opinion. There are those who would have it that sympathy merely intensifies suffering by arousing self-pity; that sympathy of any sort or in any degree only serves to foster a craving for more of the same.

Now of course expressions of sympathy may take unhealthy forms. Indeed, a normal convalescence may be retarded by a sympathetic attitude which enhances the pleasurable aspects of the situation to such an extent that its prolongation is desirable. It is not likely, however, that the physician will fall prey to this particular error of judgment. The opportunity for unwise sympathy lies more in the way of family and friends than physician. Furthermore, circumstances do

not tend to exaggerate but to diminish the physician's available fund of sympathy.

Nevertheless, to be successful the physician must cultivate either a real sympathetic attitude or a plausible counterfeit. The best balanced people develop a certain amount of childishness under the stress of pain and misery, and a brusqueness which they would consider reasonable in health, they resent when they are uncomfortable and helpless. A person whose attention is occupied with aches and pains is not going to make allowances for hurry or fatigue or hunger or even illness in the doctor, nor can he be expected to do so.

Every physician knows that it takes more than medicine or surgery to cure a patient and that extra something is derived from the personality of the physician. More and more physicians are realizing, as the psychiatrist has realized this long time, that a sick person is sick all over, regardless of the particular organ from which the symptoms appear to be emanating. To treat a patient successfully the physician must take into account his entire personality. Once he has as good an understanding of the personality as he has of the liver or heart or what not, there will be no further difficulty about the sympathy. He will know at what points he must apply sympathy just as he knows on what areas to apply compresses, and he will use equal discretion in the application. Further, he will be discriminating in the quality of his sympathy and determine when it should be tempered with firmness and when it should have an added dash of the ever necessary encouragement.

A sympathetic attitude is an essential feature of the physician's armamentarium. Without it his practice will dwindle, for sick people will not voluntarily employ an unsympathetic doctor. Without it he cannot make the most of his scientific knowledge and professional ability, for the use of wisely applied sympathy does much to enhance the value of pills and powders and to lessen the terror of the surgeon's knife.—*New York Medical Journal and Record*.

THE MANAGEMENT OF PYELITIS*

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Pyelitis or pyelonephritis is the most common lesion of the genito-urinary tract. Though there is an enormous literature covering every phase of the disease and its management, many physicians carry their patients along for months, and often years, on ineffective drugs and bladder lavage. It seems worth while, therefore, to briefly review the subject from time to time and take account of stock.

Infections of the kidney are always secondary to some focus of infection elsewhere in the body. They tend to be self-limited, but persist if there is obstruction to urinary drainage or constant reinfection. The offending organism in 80 per cent of cases belongs to the colon group while cocci and other bacteria constitute the remaining 20 per cent. Acute pyelitis may result either from obstruction to the outflow of urine plus infection, or, to the invasion of the kidney by an organism capable of infecting it when there is no obstruction. Bumpus and Meissner¹ present evidence favoring the specificity of kidney infections. Whether we accept this view or not, Hinman² points out that it would be difficult to explain why renal infections occur without obstruction unless we admit that certain organisms have a predilection for the kidney.

Chronic pyelitis, on the other hand, is practically always due to some form of partial obstruction. Obstructive lesions may occur in any part of the urinary tract, but those lying above the bladder are most commonly overlooked. Ureteral strictures, whether congenital or inflammatory; ureteral edema; stones; extra-ureteral tumors as large fibroids and retroperitoneal lymph glands; seminal vesiculitis; congenital anomalies as aberrant lower pole vessels, double ureter, hydro-ureter and hydro-nephrosis; and neuro-muscular dystrophies arising from cord lesions are the important causes of urinary obstruction. Ureteral obstruction in pregnancy probably deserves particular mention because of its frequency. A number of theories have been put forward to account for it. Most logical among them is the view that the enlarged uterus is the offender. Since pyelitis occasionally occurs before the third or fourth month, however, this theory is not entirely sound. It is also suggested that congestion at the neck of the bladder due to the downward pressure of the uterus or the enlargement of the uterine artery may be responsible for the obstruction, but the true etiology has not yet been established.

Clinically we often classify pyelo-

nephritis under three general heads: (1) pyelitis of infancy; (2) pyelitis of pregnancy, and (3) pyelitis of the adult. The pathological picture in acute pyelitis has been thought to be the same in both the child and the adult. Chown³ has recently shown, however, that in infants under two years there is practically no pelvic or ureteral involvement at all, but that the lesion is essentially a suppurative interstitial nephritis. The only case on record in which definite pelvic lesions were observed was reported by Cabot and Crabtree⁴. Braasch⁵ has given us a very complete picture of the gross pathologic changes in chronic pyelitis. Obviously since the types of urinary obstruction are exceedingly variable, an almost infinite variety of gross pathologic lesions may be observed, but the majority of cases present a fairly typical picture. There is usually irregular dilation of the upper third of the ureter which stops abruptly at the ureteral junction. Little if any dilation may be seen in the calices and pelvis. As the lesion progresses, dilation of the minor calices first appears, then the major calices and pelvis show definite enlargement. When there is upper urinary tract infection, a secondary cystitis appears almost at once. It is this lesion which gives rise to the most common symptom of pyelitis, namely frequency. In pregnancy, autopsy as well as urographic studies, have shown that in nearly a third of all cases there is dilation of the ureters. In pyelitis of pregnancy the ureter is always dilated and the gross pathologic picture is that of chronic pyelitis. Unlike chronic pyelitis from other causes, however, the dilation frequently disappears post-partum.

Normally the urine is carried from the kidney to the bladder by means of ureteral peristalsis. As scar tissue, resulting from chronic infection increases and dilation of the ureter progresses, there is less peristalsis. Ultimately the ureter becomes a passive carrier of urine. Drainage of the pelvis then depends upon the secretory

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pressure of the kidney and gravity, and we have established a mechanism which is in fact not unlike obstruction from other causes. The longer the infection continues the more ureteral damage is done and the greater the impairment to satisfactory drainage. A vicious circle is established.

This briefly presents the problem which confronts us as we undertake the management of a patient with pyelitis. Since the pathology is exceedingly variable the methods of treatment vary greatly. As in other lesions, that resist all forms of treatment in a large percentage of cases, innumerable drugs and surgical procedures have been put forward. It is often difficult to select from these the most effective therapeutic measures. I shall present those, however, which at the moment give the most satisfactory results and seem to be generally accepted. It is interesting that in the treatment of chronic infections of the upper urinary tract by all methods, only about one-third of the patients get well, one-third improve and one-third grow progressively worse. This fact was brought out by Braasch and Cathcart⁵ in a study of over two thousand cases.

TREATMENT

Before undertaking the management of a patient with pyelitis a complete examination should be made and important lesions treated. Foci of infection, particularly of the ears, nose, throat and teeth should be abolished. The patient's ability to resist and overcome infection depends largely upon his general health. No known therapy can reach the deep infections of the upper urinary tract. The urinary organs may be given every opportunity to function normally and throw off the offending bacteria but the outcome rests with the ability of the body tissues to destroy them.

In general the treatment of pyelitis falls into two groups: medical and surgical. Medical treatment consists in the administration of certain drugs and vaccines, forcing fluids and rest. It is chiefly of value in acute and subacute infections. Chronic pyelitis as a rule does not respond to drug therapy alone since it is impossible for any drug to reach the infections harbored deep in the tissues. The oldest surviving therapy is that of alkalinization which has been accepted for almost a century and its use has been continued. Whether the action of sodium bicarbonate or the citrates which are used for alkalinization is specific or whether they act as

diuretics and the effect is one of flushing is not definitely known. After an interesting experimental study of this problem, Helmholtz⁶ suggests that alkalinization may prevent the absorption of toxic products since after the acute symptoms subside, the same urinary findings exist. He concludes, however, that their chief value lies in diuretic action.

The rapid change from acid to alkali is an old and commonly accepted practice. It is thought that the lag in the bacterial growth resulting from the sudden change in the reaction of culture media accounts for the beneficial results. Helmholtz⁶ has shown experimentally that the effect of the lag is scarcely appreciable, thereby exploding the theory.

Probably the most popular drug used in the treatment of urinary tract infection is hexamethylenamin. Since Nicolier demonstrated the liberation of formaldehyde as a decomposition product of this drug in acid urine, it has been generally accepted as a urinary antiseptic. But repeated investigation has shown that the amount of formaldehyde liberated in the majority of cases is not bactericidal. Burnam⁷ demonstrated formaldehyde in bladder urine in only one in five patients on ordinary doses, while Hinman⁸ found five per cent of urines germicidal in patients receiving 15 gr. t.i.d. Here again we find ourselves using a drug with some success but without experimental support for it. It is probable that the forced water given with the drug is the chief therapeutic agent. Hexamethylenamin is most effective given in 7½ to 15 gr. doses every six hours night and day along with some acidifying agent as sodium acid phosphate or ammonium chloride. The drug may produce kidney pain associated with albumen and red blood cells in the urine. In this event it should be discontinued and fluids forced. The symptoms subside promptly.

In 1924, Veader Leonard⁹ gave us hexylresorcinol as an urinary antiseptic. It depends for its germicidal power on its concentration and ability to lower surface tension. Unlike our general practice in the use of urinary antiseptics, the forcing of fluids is contraindicated. It is given in .6 gram doses t.i.d. after meals after first establishing a tolerance with small doses. Several years ago, Arn and I¹⁰ investigated its clinical value in a large series of cases at the University Hospital. About ten per cent of the patients were unable to tolerate it. There were about thirty per cent of cures and about fifty per cent of sympto-

matic cures. Twenty-five per cent showed no change. The remainder were unimproved. These figures show no advantage as concerns cure over other therapeutic measures, but the patients enjoyed earlier and more complete symptomatic relief. Combined with other methods of treatment a higher proportion of cures should be obtained. The chief objection to the drug is its high cost and the necessity of prolonged use for satisfactory results.

Mercurochrome given intravenously has been widely used for the treatment of kidney infections. Frequent severe reactions, associated with chills and high fever, colitis, stomatitis and occasionally death resulting from its administration contraindicate its general use. Now and again a brilliant result may be obtained. Other drugs as salol, boric acid, methylene-blue and acriflavin are found useful at times but are not sufficient importance to discuss here. Sandalwood oil gives symptomatic relief in tuberculous cystitis and has long been regarded as specific for gonorrhea. I have not found it of great value in non-tuberculous infections of the kidney.

Vaccines, both specific and non-specific, have given spectacular results now and again. On the other hand, they are uncertain and usually fail.

Before passing to the surgical management of pyelonephritis I think it important to emphasize the importance of water in the treatment of urinary tract infection. Water is the most effective diuretic we have. It is probable that the beneficial result of most of the so-called urinary antiseptics is due to their diuretic action. In giving water the patient or nurse is directed to record the intake and not less than one hundred twenty ounces a day should be ordered for the adult. If the patient is vomiting, two to three thousand c.c. of normal saline may be given subpectorally without discomfort if injected slowly. This is particularly important in the acute cases with chills, high fever and marked prostration. In their monumental work on the mechanism of hydronephrosis and pyelovenous backflow, Hinman and Lee-Brown¹¹ have demonstrated the ease with which reabsorption occurs in the kidney. Under less than the secretory pressure of the kidney, reabsorption will take place directly into the renal venous system. Magoun¹² has shown that bacteria will pass from the kidney pelvis into the circulation. With these facts before us, the

enormous value of constant flushing out of the kidney pelvis should be clear.

After having carried on with conservative treatment for two or three weeks and though symptomatically improved, the patient's urine still indicates infection, complete urinary tract examination by means of the cystoscope should be undertaken. The longer the lesion exists the more difficult it is to cure. Since many of these patients go along with relatively little discomfort, they are often treated conservatively for years. In spite of all that has been said and written, bladder lavage plus some urinary antiseptic is common treatment for pyelitis. Cystitis is never primary but unfortunately the symptoms of pyelitis are chiefly those of the secondary cystitis. A single lavage of the kidney pelvis will often do more good than a year of bladder lavage.

Though most acute pyelitis responds quickly to medical therapy there are certain cases which require prompt local treatment. In the acute renal infections of pregnancy, associated with chills and high fever, it has been my custom to pass a large ureteral catheter into the kidney pelvis and drain. I have never seen any harmful results come from it. On the contrary there is always a rapid fall in temperature, relief of pain and marked general improvement. Acute pyelitis of pregnancy is a dangerous lesion and should be kept under close observation. The knee-chest position, at frequent intervals elevation of the hips and rest in bed on the left side is of great value in relieving possible obstruction and facilitating drainage. Force fluids by mouth or by hypodermatoclysis.

In those cases which become chronic or are chronic from the outset and do not clear up promptly under medical treatment an accurate diagnosis may be made by means of the cystoscope, ureteral catheter, ureterography and pyelography. This applies to children as well as adults. With the perfection of the child cystoscope there is a rapidly increasing body of experience which seems to indicate that the same lesions exist in the child that have long been recognized in the adult though there is probably a higher percentage of congenital anomalies.

Stones and aberrant lower pole vessels recently emphasized by Crabtree¹³ are easily dealt with surgically while plastic operations on the ureter for strictures and the various anomalies usually fail. The vast majority of cases are most satisfac-

torily managed by ureteral drainage and pelvic lavage. Though ureteral stricture is an important etiological factor in pyelitis, we meet with it much less frequently at the University Hospital than does Hunner. In his studies of the ureter and ureteral stricture Braasch¹⁴ has checked up apparent strictures seen in ureterograms, at operation and found them to be due to uretero-spasm. He warns against depending upon a single ureterogram. There is no doubt, however, that dilation of the ureter makes for better drainage and not only gives symptomatic relief but hastens recovery. In very resistant cases it is often necessary to continue weekly pelvic lavage for months, but this treatment offers the most effective management of all types of pyelitis.

Much is written about the antiseptics used in kidney lavage. I doubt that it makes any difference what is used. We frequently see marked improvement by the passage of a ureteral catheter alone. However, they do no harm and may be of some value. Those commonly used are saturated solution of boric acid, one to two per cent mercurochrome, one to one thousand acriflavin, one to five thousand metaphen and silver nitrate in one to five per cent solution. Wislocki and O'Connor¹⁵ have shown that mercurochrome penetrates the kidney tissue deeply while silver nitrate mildly cauterizes the pelvic mucosa, setting up a marked reaction in the submucosa. If the two antiseptics are used, therefore, it is important to use the dyes first. In my experience, silver nitrate is the most effective drug used in pelvic lavage, but at the same time it is the most irritating. Acriflavin is not germicidal but prevents the growth of organisms and is better tolerated than either mercurochrome or silver nitrate.

Before closing, let me add a further observation which I feel is exceedingly im-

portant. Most cases of pyelitis are treated until they are symptom free and then dropped. This is poor practice on the part of the doctor and harmful to the patient. Before treatment is discontinued, the urine should be negative repeatedly unless we happen to be dealing with a more or less hopeless lesion. The longer the duration of infection the less are the chances for a cure.

In conclusion let me say that I am aware I have given you nothing new. My purpose in presenting the present status of the management of this very common disease is to make a plea for earlier complete investigation of the urinary tract in the child as well as in the adult when infection has been demonstrated. If this is done, the now large and practically hopeless group of about one-third of the patients with upper urinary tract infection will be given a fighting chance.

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ERADICATION OF SOCIAL DISEASES POSSIBLE IN OUR LIFETIME

The worst of the social diseases can be made to disappear practically in our lifetime by means of the methods now at our disposal, stated Dr. Thomas Parran, assistant surgeon general of the U. S. Public Health Service. The control and eradication of this disease is a public health problem, like the control and eradication of yellow fever and smallpox. However, the nature of these social diseases requires different methods to wipe them out and the methods that we have are costly. Research is needed, and is now under way, to simplify these methods and reduce their cost. In every community, no matter how many cases of social diseases there are at any given time, there are always only a few active spreaders. If it were possible to quarantine

these, as active cases of other communicable diseases are, the social disease situation could be quickly and radically improved. As it is, the most practical method is that of "prophylaxis by treatment" which proved its effectiveness during the war. The death rate from these social diseases has not declined in the last 10 years as have the rates for other diseases as a result of public health work. Estimates based on hospital and clinic records place the number in this country under treatment for social diseases as approximately 1,000,000 people. The cost of these diseases to state and individual is enormous and must be figured from loss of wages, cost of medical treatment and shortened life span.—Science Service.

THE PLACE OF PYELOGRAPHY IN DIAGNOSIS*

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It would appear at first consideration rather unnecessary to champion the cause of pyelography. However, when it can be stated that in one of our large city hospitals of average character during one of its recent current years, pyelography was used as a differential diagnostic aid not to exceed a dozen times, there is some justification for inquiry into the situation. There seems to be no doubt that pyelography is a practical and established method of diagnosis. The first attempt to study the urinary tract by means of X-ray was made as early as 1897 by Tuffier when he suggested the use of an opaque ureteral catheter. Fenwick, in 1905, suggested a ureteral bougie made opaque by the incorporation of metals. This bougie was the forerunner of our present X-ray catheter and is the earliest suggestion to continue to present day use. In 1904 Klose proposed the use of an emulsion of bismuth as an opaque medium for X-ray study of the renal pelvis and ureter. In 1909 Keyes introduced a form of colloidal silver as a pyelographic medium. In 1911 Burkhardt and Polano suggested the use of oxygen. In 1918 Cameron suggested the use of a solution of sodium or potassium iodide. This media quickly proved to have so many advantages over any previously suggested as to give pyelography a practical rather than an experimental standing. Much credit is due such workers as Cabot, Braasch, Keyes, Walker, von Lichtenberg, Oehlecker and others for their pioneer work in the correlation of pyelographic findings with disease processes.

One of the important factors which curtails the use of this diagnostic method is our failure to recognize its value in general medical and surgical diagnosis. It is the purpose of this paper to call attention again to the possibilities of pyelography in general diagnosis. The ophthalmologist may observe a choked disc or the neurologist may be confronted by the clinical picture of a brain tumor both of which might be the result of a metastasis from carcinoma of the kidney. The internist may properly turn to the urologist with the question whether a particular clinical picture of interstitial nephritis is due to a congenital polycystic kidney. The pediatricist may ask whether in a given case of pyelitis in childhood there is some underlying congenital anomaly. An upper abdominal tumor may escape identification by means of the usual X-ray and physical examinations. A midline epigastric mass may as well be a horseshoe kidney, a pancreatic cyst or a gastric carcinoma.

While symptoms due to a biliary tract obstruction, to complete or partial ureteral occlusion, to gastric or duodenal pathology are more or less typical from the clinical viewpoint alone, we are regularly confronted by cases in which histories and physical findings leave us with out conviction as to the diagnosis. In about 10 per cent of cases of hydronephrosis in young persons appendectomy has been performed without relief of symptoms. Exploration or removal of a practically normal gall bladder from patients with right renal pathology still occurs. Hematuria which may stop for a long period of time with only observation or pills may in fact be an early and valuable sign of an operable cancer of the kidney. Secondary malignant bladder implants having their origin in the kidney have been treated locally with disastrous results.

By a pyelogram we commonly mean the radiographic picture obtained after the introduction of an opaque medium into the renal pelvis and calices together with the ureter. While technically more correct, the cumbersome term pyelo-ureterogram has not come into popular use. It must be borne in mind that the pyelogram by and of itself may be misleading. A closed hydronephrosis, renal tuberculosis, a solitary cyst or a neoplasm of the kidney might all be evidenced by practical identical pyelograms. The diagnosis in such an instance would be made only with the help of other clinical and laboratory data. History of intermittent, painless hematuria with loss of weight and strength would tend to support a diagnosis of renal neoplasm while hematuria with more or less marked bladder symptoms would favor tuberculosis. Repeated renal colics over a long period of time are much more suggestive of hydronephrosis than of a solitary cyst which is more commonly a painless tumor without urinary symptoms. Gastro-intestinal symptoms or the signs of a blood dyscrasia are more commonly asso-

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ciated with an extra-renal tumor. In a similar way the physical examination and laboratory data may help in the correct diagnosis of a particular pyelogram. The prerequisite data are a careful history and physical examination; urinalysis including staining for bacteria, cultures and guinea pig inoculations as indicated; a determination of the combined renal function; cystoscopy and study of the split functions and urines. Very important also is the X-ray examination of the kidneys, ureters and bladder before cystoscopy. So important to good interpretation is this preliminary plain X-ray examination as to be considered a part of the pyelogram itself.

In extending pyelography in the field of general diagnosis it will be discovered that an increasingly large number of urologically negative investigations are performed. This will be in proportion to the persuasiveness of the consultant requesting the examination and also, it must be added, to the ability of the urologist consulted. By failure to exhaust all of the possibilities of study the urologist commits himself completely to the diagnosis, be it negative or positive. When is pyelography indicated or perhaps more properly, when is it contraindicated? This question gains weight when one realizes that cystoscopy is a minor surgical procedure which is expensive and which is frequently not without pain and discomfort and occasionally not without danger. The best rule is that it should be employed only in cases where the resulting information is of essential value to the patient. This excludes all cases of malignancy where wide spread metastases have already been demonstrated even though it might remove doubt as to the location of the primary carcinoma or result in a most unusually interesting pyelogram for study.

Cases where the age or general poor condition of the patient makes surgery impossible will receive no benefit from pyelography. Its more or less unrecognized usefulness in the border line case places pyelography on a par with such procedures as the electrocardiogram, basal metabolism, the Graham-Cole test or gastro-intestinal X-ray examinations. The information which it may give in many cases that the upper urinary tract is normal serves to make a positive diagnosis by elimination.

IDENTIFICATION OF SHADOWS

X-ray examinations of the kidneys, ureters and bladder without the use of

opaque media serve to divide cases into two general groups, namely those with shadows and those without. Mention has already been made of the great importance of these so-called original plates and they should be employed in every case where there is the slightest possibility that the symptoms are due to urinary tract disease. These plates are obtained early in the investigation before barium has been given lest the examination be later delayed by the time necessary for the passage of the barium. Certain characteristics of the shadows observed when sufficiently well marked will sometimes make a diagnosis. The typical gall stone shadow with its peripheral density, multiplicity and grouping is quite different from the more uniformly dense shadow of the renal or ureteral calculus. A stag horn calculus may so completely outline the pelvis and calices as to be unmistakable. Calcification of mesenteric and retroperitoneal lymph nodes tends to be recognizable by their position and mottled density. In mesenteric glands a wide range of position especially if near the midline will help in identification. Calcification of renal tuberculosis when it occurs is most commonly seen only in the kidney area, but may also involve the ureter sufficiently to indicate the position of this structure. It is a diffusely mottled shadow giving an eroded buckshot appearance. This type of shadow may be confused with that occurring occasionally in the so-called hypernephroma of the kidney and indeed, may sometimes be indistinguishable from it except by pyelogram. Phleboliths are responsible for the most confusion and even to the very accustomed eye may require pyelographic differentiation. They are characteristically round, multiple and are arranged in lines corresponding to the course of the blood vessels. Shadows in the bowel of fecoliths, unassimilated pills or capsules can usually be easily identified. Interesting shadows are occasionally seen in malingerers. The position and general artificial appearance will usually cause enough suspicion to call for further X-ray under close supervision. Were these characteristics rigid our problem would be very much easier. Gallstone shadows may occur singly and with such density as to strongly suggest a renal calculus. Pleboliths or calcified glands may be indistinguishable from ureteral calculi. Many mistakes would be avoided if we were to regard the shadows of the average original

X-ray plate simply as "shadows" until their precise identity is known.

The pyelogram offers a means of identifying these original shadows. As a rule any shadow which is obscured by the pyelographic media may be said to be intra-urinary. It is conceivable, though it does not often occur in practice, that the original shadow might be superimposed on that of the pyeloureterogram. It is further possible for renal or ureteral stone to be present without pyelographic deformity. In cases of doubt where there is a normal pyelogram and the original shadow is obscured it is wise to repeat the original plates to make sure of the persistence of the original shadow. If the shadow persists a lateral pyelogram will be very helpful, for the large majority of extra-renal shadows will lie anterior to the kidney and ureter and will therefore be apart and distinct from the pyelogram. In most cases the dilatation of a calyx or of the pelvis or ureter will furnish evidence of the intra-urinary nature of the shadow or they may be visible through the media and their exact location in the kidney may be determined. The degree of dilatation and the evidence of infection may indicate with certainty whether lithotomy or nephrectomy may be required. An extreme intra-renal pelvis may be so clearly demonstrated as to indicate before operation that nephrolithotomy rather than pyelotomy will be necessary. Particularly in nephrolithiasis the phthalein test of the functional capacity of the kidney may be misleading and the question whether or not the kidney can be saved will often be determined from the pyelogram alone. Stone is commonly associated with horseshoe kidney and unless the original plates are so particularly good as to show the U or N shape of the kidney tissue itself the original shadows will appear to be too low and median for renal stone. Pyelograms in these cases will not only make the diagnosis but will importantly change the surgical approach.

Shadows appearing lateral to the pelvis and calices, even though they overlie the shadow of the kidney substance itself, are, generally speaking, extra-renal. The occurrence of cortical stone has been estimated at less than one in twelve thousand cases of renal lithiasis. The incidence of error from this source is therefore practically negligible. Care must be taken in reading such plate, for a shadow may appear at first sight to be lateral and apart from the pyelogram, while on close examination it will be seen that the shadow is

in fact connected with the calyx by an indistinct and narrow bridge of media. This finding suggests that cortical stone is a misnomer and that the cortical stone is an intrarenal calculus which has been completely separated from the calyx by scar tissue. Shadows which persist at a higher level and in line with the calices, but are still apart from the pyelogram, must be regarded with suspicion. The possibility of a duplication of the renal pelvis with the pyelographic filling only of the lower pelvis must be borne in mind. Unfortunately, from the standpoint of the pyelographer, there is nothing characteristic about the lower pelvis in duplication. If the duplication of the ureter is complete, closer inspection of the bladder will show two urethral openings. In partial duplication of the ureter filling of both pelves may usually be accomplished through a Garceau catheter in the lower end of the ureter with the patient in Trendelenberg position.

In the diagnosis of renal or urethral calculi, which do not cast an X-ray shadow, the pyelogram is a definite aid. Displacing the media as they do, it is frequently possible to determine their presence and location by the filling defect in the pyeloureterogram. Dilatation of the pelvis, calices or ureter is of the same significance as in the X-ray opaque calculi. The stones will sometimes absorb enough of the media to render them opaque to the X-ray and plates taken ten to thirty minutes after the pyelogram are many times diagnostic.

HYDRONEPHROSIS

In the group of cases where the original X-rays are negative, too much dependence is placed on the urinalysis. The opinion that a negative X-ray and a negative urine exclude upper urinary tract disease is unsound, and generalization in this direction is responsible for many mistakes. This is especially liable to occur in the case of an early hydronephrosis, particularly if the right kidney is involved. Symptoms of this disease most commonly make their appearance in the third decade of life at an age when cholecystic disease is rare and appendicitis is common. Nausea and vomiting occasionally occur and while the pain is atypical, it is most frequently misdiagnosed appendicitis. The usual progressive dilatation of the pelvis, the appearance of infection with the ultimate complete destruction of the kidney, are serious possibilities of overlooking the diagnosis, in view of the fact that many of these cases

are amenable to early operation. The interpretation of pyelograms in early hydronephrosis is sometimes very difficult, while that of a well marked dilatation is perhaps the easiest of all pyelograms to read. There is a wide range in the normal capacity of the pelvis and calices and in their volumetric relationship to each other, and it is frequently helpful to pyelogram the other side for comparison. In early cases there is no delay in the appearance time of the split phthalein which is so frequently a valuable aid in the late cases. The dependence on aspiration may be misleading for it is possible in nervous patients who have taken large amounts of water to aspirate an astonishing amount of urine from an undilated pelvis. The reproduction of pain by distension of the pelvis is insufficient evidence for the diagnosis. When the obstruction is close to the ureteropelvic juncture there will be a relatively great dilatation of the pelvis, while lower ureteral obstruction will produce a relatively greater dilatation of the calices. Thus, in the early idiopathic hydronephrosis in young individuals the earliest sign is a widening of the pelvis of the tam-oshanter type, together with some broadening of the bases of the calices. Lower ureteral obstructions, on the other hand, will show a practically normal pelvis with dilatation of one or more calices. These are important rules to bear in mind in treating the condition, for it is apparent that the partial lower ureteral obstruction which may accompany congestion and inflammation of the prostate and seminal vesicles will be entirely unaffected by a plastic operation on the ureteropelvic juncture.

IDENTIFICATION OF TUMOR MASSES

Considerable enlargement of the spleen may occur without change in the white or differential count. The right lobe of the liver may be so prominent as to be mistaken for the kidney. A psoas abscess may be present as a confusing enlargement of one side of the mid and lower abdomen. A large ovarian cyst or a solitary cyst of the lower pole of the kidney may produce a very similar abdominal tumor. It is often possible to limit the diagnosis to two possibilities, for example, spleen or kidney, gall bladder or kidney, and the finding of a normal pyelogram will sometimes make the diagnosis by exclusion. By placing a coin on the skin over the most prominent part of the tumor mass the relationship of the tumor to the pyelogram may furnish

additional information about the tumor. Lateral displacement of the ureter favors retroperitoneal or intra-abdominal pathology, while median displacement favors perinephritic or psoas abscess.

HEMATURIA

In the proper consideration of gross hematuria pyelography is an indispensable diagnosis aid. It is possible from the history to establish the fact that the hematuria is of an initial or terminal type and therefore probably not of renal origin. It is true that between the ages of fifteen and twenty-five patients are too old for the renal neoplasms of childhood and too young for the neoplasms of adult life. These are but general rules and it would undoubtedly be safer to subject all cases of gross hematuria to cystoscopy at least, before concluding that the kidney is not at fault. Gross hematuria of renal origin may be unilateral or bilateral. Cystoscopic observation alone will establish this fact. When gross hematuria is bilateral renal neoplasm is practically excluded. The two conditions in which bilateral bleeding occurs most often are nephritis and purpura. The diagnosis in either case can be made without pyelograms, which are therefore definitely contraindicated. Less frequently in congenital polycystic kidneys, tuberculosis and bilateral calculi hematuria is bilateral. Pyelography in polycystic kidneys is indicated for its prognostic value. The clinical picture of interstitial nephritis with palpable kidneys should always suggest this diagnosis. The pyelogram may easily be confused with that of a neoplasm. The arcuate arrangement of the calices, broadening of the bases of the calices and preservation of the detail of the minor calices are characteristic of polycystic kidneys. The pyelogram of the opposite side will invariably be similar.

While renal tuberculosis may be diagnosed with considerable accuracy by the pyelogram, it is unquestionably preferable to establish this diagnosis by staining methods and guinea pigs whenever possible. Pyelographic deformity in renal neoplasm are of two types, depending on the nature of the tumor. In the so-called hypernephroma the deformity is produced by compression and elongation of the calices as the tumor enlarges. One or more calices may be represented by only a very much elongated streak of media which is drawn out to a very thin line. The minor calices lose their detail, or all of the calices and the pelvis may be replaced by

neoplasm. In the papillary neoplasms of the renal pelvis the diagnosis is made by the filling defect caused by the tumor. An identical defect may be caused by blood clot and in cases of doubt a subsequent pyelogram at an interval of several days will show the same defect if due to tumor and a change or absence of the defect if due to clots. A normal pyelogram in the case of a bleeding kidney allows of the opinion that neoplasm is excluded, but the diagnosis of essential hematuria always requires follow-up pyelograms at intervals of two to three months for at least six months.

Summary: Pyelography can be made a valuable aid in general medical and surgical diagnosis. It may furnish positive or negative information. It may diagnose by inclusion or exclusion. While pyelography is not infallible, it may, when considered with all other clinical data, be the only means of arriving at a diagnosis.

DISCUSSION

(Discussion on Paper of Dr. Edward Cathcart, "The Place of Pyelography in Diagnosis.")

Dr. Hugh Cabot (Ann Arbor): This group of papers has been to me very interesting. Of course, they cover a very wide field. Each one of these gentlemen was engaged in trying to round out for us the present knowledge of the subject. I would like to touch on a few points that each has brought out. In the first place, I want to congratulate Dr. Cathcart upon having apparently successfully avoided allowing himself to be classified as a specialist. You will remember, one of the recent definitions of a specialist was, a person who knows more and more about less and less. (Laughter). I think Dr. Cathcart has shown considerable ability in avoiding being driven into that category. I was interested in hearing him point out—and he can never point out too much—that there is a very considerable possibility in any procedure of this kind, particularly in the hands of the enthusiastic, that it may be overused.

I was a little shocked—I think it was about two years ago—when a very eminent urologist advocated in an article that all patients coming to the clinic for urology examination should have a bilateral simultaneous pyelogram. That any procedure of technical kind should be broadcast in that way would do nothing but get such a procedure into disrepute. All of us, I think, see patients in whom pyelography is suggested, and the question raises itself, whether or not we believe it will be of benefit. It seems to me the only sound criterion we can use is whether or not the information which may be obtained by this method is of essential importance to the patient. It seems to me the patient and not the completeness of the scientific study, must be the key to the situation. There are many patients in whom we are aware that a pyelogram will give us information which will be of interest in completing the study, but unless it can be shown that that information is of utility to the patient, it

seems quite clear to me that it should not be utilized.

I was glad to hear him point out the possible fallacies of single observations. With his extraordinary experience a single observation by him is undoubtedly less liable to fallacy than with many of the rest of us. But it has occurred to me over a long series of years that a single observation may be almost flatly contradicted by a second observation under apparently similar conditions.

Discussion on Paper of Dr. R. E. Cumming.

Dr. Hugh Cabot: In Dr. Cumming's paper, I was conscious of the fact that he was cramped for time. There is one possible method of attack upon one group of cases with paralysis of the bladder which he would doubtless have treated at more length if he had had time. It concerns those cases of bladder paralysis, whether congenital or acquired, which are not accompanied by paralysis of the rectal sphincter.

More and more I have come to believe that transplantation of the ureters has a very real place in this field. In patients with epispadias, for instance, and not only the more extreme type, ureter transplantation has been accepted.

But there is this other group of acquired bladder paralysis of which I think we can see more if we can offer them more in the way of positive results. And I believe that there is an increasing field for the transplantation of the ureters which has now, I think, come to be on a sound basis.

I think we can offer the patient by that method a long series of years of comfortable existence, more comfortable than can be had even by the very satisfactory, complete incontinence that Dr. Cumming has discussed. It is a field with which the profession as a whole is not sufficiently familiar. They do not recognize that in the last ten years very great technical improvements have taken place and the operation is now a thoroughly feasible and extremely satisfactory one.

Discussion on Dr. Carl Eberbach's Paper, "Treatment of Pyelitis".

Dr. Hugh Cabot: Coming to Dr. Eberbach's paper, I am inclined to accentuate the point suggested by him that there are some things about pyelitis of pregnancy which entitle it to be classified separately. It is the only group in which there seems to be certain relation between dilatation of the ureter and infection. It is the only group in which spontaneous recovery following the disappearance of the probable cause, that is to say, the pregnancy, is the rule rather than the exception, and it is the only group in which recurrence of the cause is by no means regularly followed by a recurrence of the condition. I think, therefore, that we should approach the pyelitis of pregnancy with a definitely different attitude from what we approach the pyelitis of children or pyelitis of adults not during pregnancy. I agree with him that we do not know the whole story in regard to pyelitis of pregnancy. As far as I am concerned, the explanation continues to be unsatisfactory, that is, that the uterus itself pressing upon the ureter, can cause dilatation. That seems to me absurd since the dilatation begins and is developed to a certain point before the uterus can possibly produce any pressure. I think we must definitely abandon that as an explanation. The other explanations put forward are sometimes interesting, and often possible. None of them, I think, have been proved to be the real underlying factor.

In regard to the question of foci in another part of the body as related to pyelitis, of course, in pyelitis or any other abnormal condition of the body, foci of infection elsewhere are of interest and should be looked into, in the interest of the general condition of the patient. But I cannot subscribe to the idea that focal infections in tooth or tonsil have any relation whatever to an infection of the kidneys. In the first place, the organisms are different. In the second place, treatment of the foci has not in my experience—and I have seen the cases of many other experts—been followed by any permanent or clear-cut effect upon the pyelitis, and unless the effect of these foci be simply upon general conditions, I cannot regard them as related to the process. I often wonder whether the very uneven results which we get from the use of formaldehyd—containing drugs, isn't due to the fact that we haven't the slightest idea how much of the drug our patients are in fact getting.

I go back to the early days of urotropin, when, knowing its very uneven behavior in the clinic, ten of us working in the laboratory as well as in the clinic, undertook to experiment with the drug upon our own persons. We started with taking $7\frac{1}{2}$ grains three times a day and added a $7\frac{1}{2}$ -grain tablet every day.

One of the group had haematuria when taking four tablets; four of the group when taking six tablets; one of the group took 100 grains a day without any symptoms whatever, and examination of his urine showed it contained no formaldehyd. In other words, urotropin would have been equally as well applied to his boots as to his stomach. His urinary tract was getting no antiseptic.

All that was thoroughly developed many years ago, when it was shown that the ability of the urine to break up formaldehyd-containing drugs varied widely with the acidity of the urine and that could not be tested by the ordinary litmus paper methods.

It was very simple to test the amount of formaldehyd actually in the urine, and by somewhat more complicated methods, the actual acidity of the urine, (hydrogen ion concentration of the urine) could be determined.

I am inclined to view the thing in this way, before we make a final judgment we must have a larger series of cases in which it is quite clear precisely how much formaldehyd is in the urine, how much of the drug is being put into their mouths and excreted by the kidney and other parts of the body.

I am as yet unable to make any final judgment on the value of that group of drugs until a more detailed study has been made as to what they are actually doing in the way of breaking down into their component parts.

And finally—I think Dr. Eberbach stressed this point, but I would like to take a crack at it myself. The greatest single factor in the failure of pyelitis of all types to respond to treatment is, they are still being treated with an incomplete knowledge of facts.

I saw only the other day a child of seven who had been treated for five years by experts in various parts of the country for pyelitis. That child's urinary tract had never been examined. Examination showed that child had a bilateral congenital dilatation of both ureters and both kidneys and pelves, and no method of treatment would produce any beneficial results.

It would have been perfectly simple five years ago to determine those facts. They were not de-

termined until after five years. A great majority of the patients who have been treated after they had chronic pyelitis—I am not discussing acute pyelitis, but chronic pyelitis, should not be treated without facts. Nine cases out of ten today are treated over a period of weeks, months or years without the facts, and until we stop this and start with the facts as a basis of treatment, we are in no position to criticise our results.

My own view is that the disease is not more intractable to treatment, given all the facts, than a great many other conditions with the treatment of which we are relatively well satisfied. But we are now shooting at them all over, with methods that do not depart far, as I think, from the old shotgun prescriptions of our grandfathers, at which we now laugh. We do the same thing ourselves with somewhat more instrumental machinery. We don't get the facts before we start, and we can't law down a prognosis of chronic pyelitis until we start a treatment based on facts. (Applause).

Discussion on paper of Dr. R. E. Cumming, "Bladder Paralysis, Its Etiology, Prognosis and Treatment."

Dr. H. W. Plaggemeyer (Detroit): I am most interested in Dr. Cumming's paper, naturally, having been working along that line for a long period. He said at the beginning of his remarks, a rather striking thing—that every specialty in medicine or surgery has its enigmata. I think that is true, and in urology particularly do we have our enigmata to go through with. One of the worst types we have to handle is the question of vesical paralysis due to whatever cause. There are two outstanding types—syphilitic, chronic and longitudinal, and the other type which comes from fractures or various causes. In most of these cases we have retention, and all I want to bring out is this one point, not to catheterize these patients, who will establish a paradoxical incontinence.

That can be established, as has been pointed out, by a number of methods. Any stimulation, as shown by Dr. McClintic in his recent paper, will have a tendency to make that patient establish a paradoxical incontinence. That is not what the patient wants. It is not what the family wants, and particularly in the country, away from a large medical clinic, it must be distressing to have them constantly dicker. The point is, these patients succumb rapidly to infection.

As Dr. Cabot long ago pointed out, the average normal bladder is almost immune to onslaught unless that onslaught be due to a massive infection. That is also true in necrosis.

Discussion on Papers of Drs. Cumming, Eberbach, and Cathcart:

Dr. Robert Rosen (Detroit): I was very much interested in the papers, especially the part of Dr. Eberbach's paper where he mentioned that body resistance will generally overcome infection in the acute cases. A particular phase I recall clearly, while working with a drug that you are not familiar with; one of the forerunners of mercurochrome. That drug in minor quantities produced antiseptic urine. Applying the drug to the human body, we also obtained sterile urine in very minor quantities, regardless of the weight of the individual. But when applied to pathological cases, the drug did not work. So the inference was that the kidney itself, probably stimulated by this drug, had been throwing off a sub-

stance that produced antiseptic urine, but that when the kidney is slightly damaged this virtue is lost. That is the only conclusion we could arrive at.

There is one other fact that I want to mention. In using silver nitrate through accident, two cases that had been treated for over five years with silver nitrate—1 per cent and 5 per cent—this one particular time, instead of using 1 per cent silver nitrate, 20 per cent was used.

I was fortunate enough to have them under observation, and I surely thought that would take care of the infection. The cultures that we made showed absolutely no effect. Both of these cases recovered from the 20 per cent silver nitrate, although there was hematuria and they had quite a stormy siege with it.

The drug referred to above could produce sterile urine in the normal kidney, and that is what made me mention that in Dr. Eberbach's paper he claims it doesn't make any difference what drug you do use.

In acute cases I don't think it is advisable to use any instrumentation at all. I may be wrong, but I have seen a number of cases recover without any other treatment than forcing fluids.

Now I just want to make one more remark in regard to using hexamethylenamin, in regard to formaldehyd. I think if we use drugs, we should cut out the fluids and concentrate on the drug, and we might be able to detect formaldehyd. In other words, either give fluid and cut out the drugs, or cut down your fluid and use drugs. (Applause).

Discussion on Papers of Doctors Cumming, Eberbach and Cathcart.

Dr. C. F. McClintic (Detroit): There is one thing the general practitioner forgets. That is, the typical automatic bladder observed in acute transverse myelitis, is the same type of mechanism they are born with. In other words, in the babe at birth there is present an automatic bladder, and if we stimulate the mechanism which controls this bladder, we get phenomena described by others and known as sufficient for bladder emptying.

Dr. Cumming mentioned the fact that the nerves might be severed from the bladder. In other words, to sever the nerves to the bladder, two procedures are open. One is to open the abdomen and sever the sympathetic after the fibers leave the central nervous system. The other is to adopt the old method that the urinary surgeons first used, of doing what we call a rachiotomy, for access to the nerve groups at the end of the cord.

I would like to emphasize another procedure that, due to the development found in urinary surgery, I feel is certainly less formidable than rachiotomy.

Our first procedure was to cut the nerve roots. This is a great shock and often fatal, but when successful, the patient is relieved from pain. But due to difficulties in that procedure, in order to relieve pain, the urinary surgeon cuts the cord, which transmits the pain impulses.

I would like to suggest, in these cases of which Dr. Cumming tells us 60 per cent who have the trouble die of pyelitis, the idea of transection of the cord, complete severance of the cord. If you do this in the lower lumbar region you get complete automatic control of the rectum such as is found in the infant. This operation is not formidable. I would prefer to have that done than

the transplantation of the ureters into the rectum, as suggested by Dr. Cabot, because my experience has been that there is a tremendous shock accompanying this operation if you don't get severe toxemia.

The operation is not a formidable one. The small vessels of the cord are ligated or caught with clips and a transverse cut is made through the cord, producing what the physiologist speaks of as reflex cord. That will give a perfectly automatic bladder, and in that condition the patient will soon learn, so that you have a perfectly functioning automatic bladder.

The explanation of that is that all of the organs, no matter whether stomach, heart or bladder, or ureter, when severed from central nerve connections, become automatic. The reason is that the physiological property of plain muscle is that of rhythmic, automatic, conductivity. You get a type of dual muscular mechanism.

The transection of the cord has been done in this country and in Europe in several of the clinics. As I say, I do not regard it as formidable, and it can be done more comfortably than the other procedures.

Reply to Discussion on Paper of Dr. R. E. Cumming, "Bladder Paralysis, Its Etiology, Prognosis and Treatment."

Dr. Cumming: I was delighted to have Dr. Cabot agree to the importance of summarizing our knowledge of bladder paralysis, especially for the medical public. There is still a great deal of opposition to our own ideas, which incidentally I have stated were not original with us.

I am grateful to him also for bringing up the point relative to transplantation of ureters for bladder paralysis. And at the same time I think Dr. McClintic misunderstands his remarks. I think they are speaking of an entirely different supposition.

For those cases where the rectum is not involved, and where there is no bladder at all, his method is certainly ideal and should commend itself to us. As I say, I am grateful that he added that to my own feeble efforts. I feel, as Dr. McClintic said, however, that his idea as suggested in the paper of coddotomy or some other furthering of the paralysis of the bladder by means of destruction of nerve control is less formidable than transplantation of the ureters, and I see Dr. Cabot agrees. As Dr. Plaggemeyer indicates, the observations are based on long series of cases as well as abundant autopsy material. I would like to correct Dr. McClintic's statement that I said that 60 per cent of the tabetic cases die from infection. I was quoting from Dr. Keyes' text book, and he was quoting from Barney, to the effect that 50 per cent die from renal infection.

Reply to Discussion on Paper of Dr. Carl Eberbach, "Treatment of Pyelitis."

Dr. Carl Eberbach: I think Dr. Rosen misunderstood what I meant to say about the treatment of acute renal infections. It is not customary to treat instrumentally the acute infections, since, as a rule, they clear up promptly, and often satisfactorily by the forcing of fluids and urinary antiseptics. We do use it occasionally in acute pyelitis in pregnancy, simply because the lesion is usually a serious one and the infection is almost immediately relieved by it. But we do not recommend it as a usual procedure for infection.

IMPORTANCE OF IMMUNIZING PRE-SCHOOL CHILDREN AGAINST DIPHTHERIA

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In the October number of the American Journal of Public Health is a paper by Walter W. Lee, M. D., Epidemiologist of the Indiana State Board of Health, on "Diphtheria, Its Treatment and Prevention." The paper presents some calculations which bring out sharply the importance of considering the young age groups in any campaign of prevention.

In order to make these calculations apply to the situation in Detroit, the 1925 population data, together with the deaths from diphtheria by age groups, in 1925 to 1927 inclusive was used. These years include a low and a high death incidence so that the average may be considered a fair figure to use in the calculation. The question is "what is the relative importance of immunizing a child 1 year old and one who is 14 years old?"

The following three tables have been prepared from data on file at the Detroit Health Department.

TABLE A

Age group by years.....	0-4	5-9	10-14	15-19
Population	128,467	122,390	103,310	82,839
Deaths from diphtheria (Average for 1925, 1926 and 1927)	129	79	19	2 1/3

TABLE B

Death rates per 100,000 children.				
Age group by years.....	0-4	5-9	10-14	15-19
Rate	100.4	64.5	18.4	2.8

TABLE C

Ratio of probability of death in each age group, on basis of 10-14 group being one (1)				
Age group by years.....	0-4	5-9	10-14	15-19
Ratios	5.45	3.5	1	

In one year the 14-year-old will be in a relatively non-susceptible age group while the infant will be for 14 years in a relatively high susceptible age group. The infant will be in the 10-14 year group for five years. While in this group, his possibility of dying of diphtheria is the same as that of five children who are 14 years of age.

The infant while in the 5-9 year group will have his possibility of dying of diphtheria increased three and one-half times over that of the time the infant will be in the 10-14 year group. (See Table C.) Hence, in the 5-9 group, his chance of dying of diphtheria is the same as at least 17 children 14 years of age.

While the infant is in the 0-4 group he will have his chance of dying of diphtheria increased 5.45 times over that of the time

he will be in the 10-14 age group. (See Table C.) Hence in the 0-4 group his chance of dying of diphtheria is the same as 27 14-year-olds. Thus, the immunization of an infant at six months to a year of age is equivalent to the immunization of 5 plus 17 plus 27, a total of 49 14-year-old children.

The above calculations may be summarized by adding together the equivalent number of 14-year-old children, as indicated in the following table:

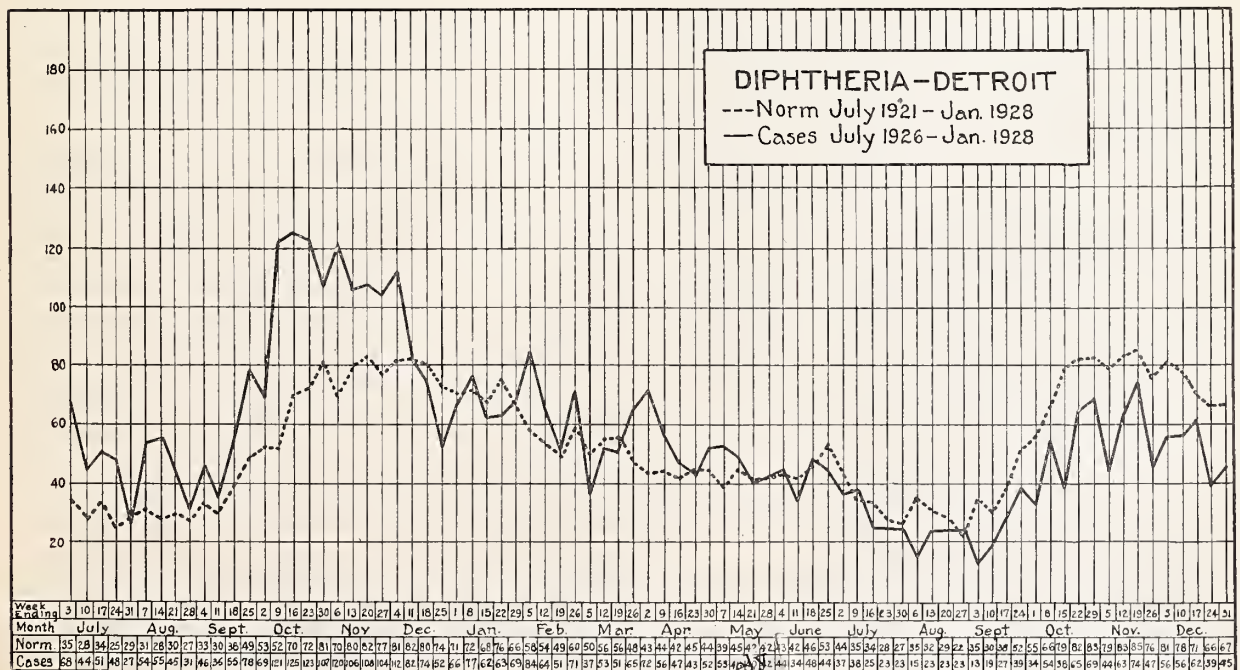
TABLE D

Showing the relative value of immunizing a child one year of age and one fourteen years of age.		
One Year Old Child	Age Groups	Equivalent number of 14-Year Old Children
1	10-14	5
	5-9	17
	0-4	27
		49

Hence it appears that the immunizing with toxin-antitoxin of a 1-year-old child will, so far as preventing a death from diphtheria is concerned, accomplish as much as immunizing 49 children who are 14 years of age. This shows the importance of concentrating preventive measures of this kind on preschool children. The same amount of work on preschool children will accomplish much more than on school children.

There is another interesting deduction to be made, as pointed out by Dr. Lee. If we prevent one death from diphtheria in any age group, we lower the total number of deaths by one. Now, in referring to Table A it will seem that if we could protect 1/129 of the age group 0-4, which would be about 1,000 of these children, it would be possible to prevent one death. Likewise in the second age group, 5-9, it will require 1/79 or about 1549 of this group to be immunized before we may expect to prevent one death. Again in the third age group, it will require 1/19 or about 5,437 of that age group, to be immunized before one may expect to prevent one death. This shows how much greater

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the two toxin-antitoxins was the same). This table shows the results of Schick Tests on children six months or more after immunization during the last two years.

Source of Children	Number Schick Tested	Number Positive	Number Negative	Percent Negative
Schools 1927.....	4,005	1,434	3,138	78.8
Clinics 1927.....	10,735	2,738	7,997	74.5
Schools 1928.....	10,551	2,712	7,839	74.3
Goat T. A. T. 1928.....	781	151	630	80.7

This table shows clearly that the goat serum toxin-antitoxin is fully as efficient as the toxin-antitoxin used formerly. Eighty per cent of the children who received goat serum toxin-antitoxin were found to be Schick Negative as compared with 74 per cent when the older form of toxin-antitoxin was used. This work has led this Department to provide goat serum toxin-antitoxin during the campaign this fall.

A small percentage of children is not made immune by toxin-antitoxin as indicated by the Schick Test and by the occurrence of clinical diphtheria. These children may develop diphtheria when exposed to an unusually large, or virulent infection. Immunity is a relative matter. Toxin-antitoxin will protect against the usual diphtheria infection, but if the child is exposed to an unusually large number of diphtheria bacilli or to especially virulent bacilli, the protection may not be sufficient to prevent a case of diphtheria. Parents should watch their children and if illness develops, a physician should be called who will decide the necessary treatment. We

can safely say that toxin-antitoxin treatment protects against the usual infection of diphtheria and will make a severe infection less injurious.

In summarizing this paper the following points have been made:

1. In Detroit the records for the last three years show that so far as the prevention of deaths is concerned, the immunizing of one child six months to one year old will accomplish as much, as immunizing 49 children 14 years of age. The ideal group of children to protect with toxin-antitoxin is from six months to 18 months of age.

2. It will be necessary to immunize about 1,000 children in the age group 0-4 to prevent one death from diphtheria; and one will be obliged to immunize 5,443 children in the age group 10-14 to prevent one death from diphtheria.

3. Goat serum toxin-antitoxin is as efficient as preparations of toxin-antitoxin used in the past, and has the added advantage of not sensitizing to horse serum.

4. Large or virulent infections with diphtheria bacilli may overcome the immunity that has been established by toxin-antitoxin. Parents must be warned to have sore throats of children, even if the child has been treated with toxin-antitoxin, examined promptly by a physician who will decide what to do. It can be safely maintained that toxin-antitoxin treatment protects against the usual infection of diphtheria and will make a severe infection less injurious.

ARISTOTLE, THE FIRST SCIENTIFIC BIOLOGIST

Aristotle was the first prominent scientist to begin the scientific collection of data about animals and the first to begin the systematic classification of animals. He believed in a teleology holding that each species of animal is internally involved, its end being to grow and reproduce its kind.

Neuburger, criticising Aristotle's system of anatomy and physiology, said:

"The intermingling of speculation and empiricism is well shown in Aristotelian anatomy and physiology, both of which he treated from a teleological point of view, and remained through many centuries models of scientific perfection. In anatomy, Aristotle was not neglectful of the labors of his predecessors, and of Diocles amongst contemporaries, nor did he fail to advance the subject particularly in the knowledge of the vessels; but it contained many serious errors, arising partly from unwarranted deductions drawn from the results of zoological dissections, and also partly from preconceived opinions."

That criticism is just; but Aristotle's work could not have been otherwise under the circumstances. The medical sciences were newly founded, and Aristotle was largely dependent upon his own dissections and observations for the

data of his conclusions. Considering the paucity of the facts at his command, we should be astonished with the great value of the work he did for medicine.

The contributions of Aristotle and the contemporary dogmatists to the progress of the healing art were not only in anatomical, physiological and biological studies, but also in scientific methods, classification and experimentation. Few men in any age did so much as Aristotle in that respect. His work, generally speaking, marked a new era in medicine and caused a revolution in thought among doctors in all countries. His writings were immensely popular and his lectures were quickly translated into all the principal languages and dialects of the time. His teaching and that of contemporary writers and critics circulated among the doctors of all localities and led to debates as keen as any that followed the publication of Darwin's books. This great Greek philosopher stimulated thought in ancient medical circles as no previous writer had done. Equally great as a biologist, anatomist, physiologist and logician, Aristotle should be ranked among the greatest men in medicine.—The Physician Throughout the Ages.—New York Journal and Record.

THE ORTHOPAEDIC TREATMENT OF POLIOMYELITIS*

EDWIN WARNER RYERSON, M. D.**

CHICAGO, ILL.

In view of the fact that infantile paralysis is making headway everywhere in the form of small epidemics which are gradually becoming more numerous, it is important for all of the men who practice medicine and surgery to have a clear idea of the principles of the treatment of infantile paralysis.

In the first place, we do not know the exact cause of the disease. The individual germ or organism responsible for infantile paralysis has not been definitely established. There are no means of protecting patients against infantile paralysis. Rosenow's serum perhaps may be of advantage, but we can not prove it. The serum from recovered cases of infantile paralysis, I think, undoubtedly would be of benefit if it could be given in large enough quantities. The trouble with these various preventives and cures is that we cannot properly evaluate them. Out of 100 cases of infantile paralysis in the hospital, we may select 6 or 8 of them practically identical with the next 6 or 8. We may treat part of them with Rosenow's serum, part of them with convalescent serum, and part of them with nothing at all, and find no facts of value. One cannot say that there is any scientific method of proving that any of these methods do any good. The question, therefore, has to be held in abeyance until we find the actual germ and make a specific vaccine or serum. We do not know the method of transmission.

I think among most of the men who see a great deal of this disease, the belief is beginning to be quite firm that the infection is very widespread, that in the case of a few individuals coming down with infantile paralysis undoubtedly a very large number of people in that same locality have been exposed to and infected with this organism. Yet only a very few of them become paralyzed, and all of our scientific research workers to the contrary notwithstanding, we cannot tell a case of infantile paralysis with certainty unless the patient is paralyzed and we may almost say that unless the patient is paralyzed he has not infantile paralysis, yet undoubtedly the examination of the spinal fluid in many cases would show contributory evidence to its being infantile paralysis. There are no perfectly distinct characteristics in spinal fluid, so there we are; cannot pre-

vent it, cannot cure it, and cannot modify it.

In case we get another epidemic such as New York had, 16,000 cases in one fall, it is perfectly obvious that trained orthopedic men cannot take care of such an enormous number. The general practitioner will have to take care of the majority. All of our big cities will have a similar epidemic of infantile paralysis unless somebody can find the solution for it and make a vaccine or provide for immunizing patients in some other way.

The only real point that has been made in the last year is that two definite milk-born epidemics have occurred and have been investigated. It was found that some individual at the headquarters of the milk delivery system had infantile paralysis. It has therefore been proven that the germ may get into the milk and if it does an epidemic will result, but this is not the usual method of transmission.

A child is lying in bed with infantile paralysis. There are probably some muscular pains which will not disappear until sometime later. The most frequent site of the paralysis is the muscles of the legs, particularly below the knees. The individual selective paralysis of muscles in my experience has been of the anterior tibial group so that drop foot results. The next most frequent site is the quadriceps extensor muscles of the thigh, so that the leg cannot be extended on the thigh. Next, paralysis of the big calf muscle, so that the heel drops down and a calcaneus foot develops, where the patient walks on the tip of the heel bone and the ball of the foot is cocked up in the air. Next, the hamstrings and some of the other muscles of the thigh and leg. What are we going to do? The healthy muscles have normal tone. The paralyzed muscles do not oppose the normal tonic pull of the healthy muscles and gradually contractures of healthy muscles begin. If the leg is completely paralyzed, no deformity occurs at all ex-

* Presented at the Second Annual clinic of the Highland Park Physicians Club, held December 1, 1927. (This is a stenographic report of an extemporaneous address. It has been submitted to the author November 28, 1928, and therefore represents the author's views at the present time.—Editor.)

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cept what deformity may occur by force of gravity as the child lies in bed on his back. Gravity will pull the feet down and gradually contracture deformities will occur through normal tonus, normal pull by unopposed healthy muscles. We must therefore prevent such pull occurring and in some cases it is extremely difficult.

If we see these children in the early stage with pain, having had the ordinary symptoms of infantile paralysis, what are we going to do for them? There is where one of the most important parts of the treatment comes in. We cannot do anything to modify the disease, but we can do much to keep deformities from occurring.

The two most common deformities are: First, almost constantly, drop foot, which has to be prevented by a light splint made of wire properly bent and bandaged on to hold the foot up at a right angle or a posterior moulded plaster of paris cast, or a couple of pieces of board fastened together to make a right angle splint. That is all that is necessary to hold the foot up properly unless there is a very strong contracting pull of the big calf muscles, in which case it is difficult to prevent the foot drop, but it can be prevented by constant care. The fact is that in nearly all cases which are not taken care of by specialists, or by careful men, foot drop does occur and is very difficult to relieve. The second most frequent deformity is one about which most men know little, and that is the contracture of the tensor fasciae latae of the thigh. It occurs in this manner. As the child lies in bed the thighs are apt to fall apart, abducted, rotating outward and becoming flexed at the hips. A great many people lying in bed assume that position automatically and it happens in many cases of infantile paralysis. One of the few muscles in the upper thigh which remains not paralyzed is this tensor fasciae latae, which ordinary surgical or medical men do not think of once in ten years, yet this muscle becomes contracted strongly and when one tries to bring the abducted thigh into the straight line he cannot do it. In order to bring it straight, the lumbar spine goes into a position of lordosis. It is easy to prevent this deformity; simply pin towels around the knees to hold the legs side by side and parallel in bed and retain them that way night and day. This will prevent this very important deformity. After it has once occurred and become established it is a very formidable task to relieve the deformity. It sometimes cannot be done in

a deformity of only a few months standing, cannot be done by putting on Buck's extension with weight and pulley traction because Buck's extension only increases lordosis in the lumbar spine and very seldom pulls out the contracture of the tensor fasciae lata. After a few months it can ordinarily be relieved only by an operation which is quite a formidable procedure. It means peeling off all the muscles on the crest of the ilium, pushing them downwards along crest of the ilium and allowing them to reattach themselves at a point on the surface of the ilium 1 inch to 1½ inches below their original insertion. Operation is further undesirable in that it makes a bad looking hip, a considerable defect in the outlines of the hip, so that prevention is much better than cure. In nearly 50 per cent of the neglected cases that come to orthopedic surgeons, we find this deformity present.

The first thing to do in an early case, then, is to hold the foot up at a right angle and keep the knees tied together, and in this way we will not get any serious deformity in the legs. This treatment has to be carried on with rest in bed, no other treatment of any kind except attention to bowels and attention to the prevention of deformities until all pain has disappeared. Roughly speaking, we may call this the first stage, that is, from the onset of the disease until all of the pain has disappeared.

Why it is I do not know, but it seems to me that the cases occurring nowadays have more pain than they used to and the pain lasts longer; moreover, the attacks do not come on as suddenly as they did 30 years ago. In those days most of our cases gave a history of the child being perfectly well, or perhaps having a little headache, perhaps vomiting once or twice, and then suddenly, out of a clear sky, becoming paralyzed. Nowadays it seems to me that in the last 10 years more cases have been having a slow onset with a slow paralysis which does not reach its peak perhaps until 72 hours after the onset and causes a great deal of pain.

We must keep the child perfectly at rest during the painful stage; no electricity, no massage, nothing except attention to bowels and bladder, nourishing food, and prevention of deformities. After that stage, which may last six weeks, but ordinarily lasts about four weeks, the prevention of deformity must still continue; but in addition we must begin to try and educate the child to use some of the paralyzed

muscles. This requires much tact and patience, so any relative or nurse who can be taught to interest the child in trying to make movements of his toes and legs is of great value. People who do not have the ability to get this work out of the child should be replaced by someone else.

In Chicago we have a large number of visiting nurses who are maintained and who have been carefully trained in infantile paralysis work and who will go and care for and visit several times a week any child whose parents are unable to pay for a private physician or nurse or muscle trainer, and these girls do extremely good work. Nowadays it is uncommon for any patient in Chicago to come to us with a deformity or without proper muscle education. It makes the life of an orthopedic surgeon a great deal easier.

We still have many cases coming in from the country about Chicago who have not had these advantages, and have been totally neglected, and must have the most extreme measures in orthopedic surgery before they can be improved.

The muscle training then is the next important factor in the treatment of infantile paralysis. We all quarrel among ourselves about the value of electricity. I do not think electricity is of the slightest value in the treatment of infantile paralysis. It is one of those things like convalescent serum and Rosenow's serum, whose value cannot be proved. I do not think it worth the time or money of any person in moderate circumstances to go to the expense of using electricity. This statement has always brought about a good deal of discussion. I have found a number of men who believe that electricity does a great deal of good and they are just as well able to prove their point as I am to prove mine. I have had many cases where it has been used where no benefit has been observed.

I believe that muscle training and prevention of deformities are the two factors of the greatest importance in the second stage of infantile paralysis; and that stage lasts two, three, or more years, during all of which time deformities must be prevented. The children must be encouraged and stimulated to use the paralyzed muscles to the greatest extent that is possible. It is a long, hard pull. It is during that second stage that the unfortunate parents may drift away from the doctors who know about it, and go to various charlatans, of whom I know there are a few in Detroit, and may become the victims of many illegal kinds of practitioners. It is

quite a rare thing nowadays to have patients brought to me for consultation or treatment who have not been the rounds of these charlatans, chiropractors, osteopaths, and all other kinds of paths except the paths of righteousness. I have been told by many intelligent people that there are chiropractors, for example, who tell the patients and their parents that with a few treatments of the "dislocated vertebrae" in the back a perfect cure of infantile paralysis can be made. This is not the case. The osteopaths, I think, are becoming much better educated and are telling people fewer lies than they used to because a good many people have come from osteopaths who have not been told that their vertebrae were out of adjustment, and they have not been promised as much as they used to be promised. I am beginning to have a better opinion of the osteopaths than I formerly had. I think they do a great deal less harm than they used to do and I think they are getting better all the time. However, they are not the subject of this discussion. Almost all of the patients seen by men of this kind are told that they would be cured in a little while, and the result is that in the majority of these cases about one year is spent in going around and trying the various quacks recommended by friends. Nowadays people are much better informed and much better educated than they used to be. Most people are beginning to realize that honesty is the best policy, and they come back to men better experienced who know the real pathology. After several years we usually find some permanent residual paralysis. Certain groups of muscles are apt to remain paralyzed and something definite must be done. The children are beginning to get deformities of the feet, legs, or spine which even carefully applied braces will not prevent.

About 1890 it began to seem evident that more should be done for infantile paralysis cases than had been done before and it was about that time that Nicoladoni conceived the idea that some of the healthy muscles might be transplanted so that they might do some of the work of the paralyzed muscles. He popularized the operation, but after a while it was found that the tendon transplantation alone did not sufficiently control the twisting powers of the foot, and the feet, which at first held up pretty well, began again to get twisted out of place. In the knee, however, it worked well. If the quadriceps extensor be paralyzed so that the leg cannot be

straightened out at the knee, but the hamstrings remain powerful, the external hamstring, the biceps, can be transplanted around to the front of the knee, inserted in the patella, and provide an enormous and very satisfactory supply of muscle for straightening out the leg. It does not do all the work that the quadriceps muscle does, but it helps a great deal in walking, especially if the semitendinosus also is used. Another place where it is of distinct benefit is in the foot, where the tibialis anticus has become paralyzed and the patient has foot drop. If the tibialis anticus is the only muscle paralyzed it is very simple to aid and practically replace this muscle by use of the toe extensors and possibly one or two lateral muscles to provide dorsal flexion of the foot. The trouble in the foot is that there are usually some more paralyzed muscles, some of the smaller muscles, but rarely the flexor brevis of the foot. It is a curious thing that up to this time I can recall very few cases of infantile paralysis where the flexor brevis of the toes was paralyzed. Almost every case that I have seen has still been able to flex the toes a little by use of the flexor brevis.

We find, then, that the weight of the body on a foot, which is a little unstable, is going to produce a deformity. The deformity is usually a lateral one, either inversion or eversion of the foot. It becomes very disabling and very hard to control by braces and this is where the second epoch of surgery in infantile paralysis began to take its place. We found that tendon transplantation alone did not control the lateral deformity of the feet, that in a few years the twisting of the foot to the outer or inner side would again begin.

This was very forcibly brought to my mind because many of us, just before the war, were doing many of these tendon transplantations. We did a great many and then went into the service and remained in the army for two years. At the end of that time, when we went back to hospital work we began sending out for the tendon transplantation cases which we had operated at least two years before, and the results were very disheartening. Many of my patients showed good function of the transplanted muscles, but had developed severe deformity of the foot. In all these cases, whatever deformity had existed at the time of the tendon transplantation had been corrected by tenotomies or osteotomies. These deformities kept on increasing and it became evident that the

ordinary tendon transplantations were not sufficient, the results were not good enough for us to keep on doing this delicate and difficult work without something further. We then began to appreciate the enormous importance of stabilizing the feet, not making them ankylosed at the ankle joint, but fastening together the small joints in the feet which allow rotation inward and outward. At first the astragalo-scaphoid joint was believed to be responsible for the lateral deformities, but then it began to be evident that although we fastened up this joint, the results were still unsatisfactory. Some of our wiser heads began to investigate the subastragaloid joint, and discovered that if this joint were made solid, as well as the medio-tarsal joint, a foot would be obtained which would be a good and stable foot. One thing that made me think about this was the observation that people, after amputations, walked very well with artificial legs and feet in which the artificial feet have only the power of flexion and extension. We thus reasoned that in paralytic feet which were twisting one way or the other and becoming unserviceable, if we made those feet into a semblance of artificial feet with motion at the ankle joint and with no lateral motion, we should then approach the maximum of efficiency. These operations have been practically standardized for a number of years so that competent surgeons who choose to read literature on the subject can so stabilize a paralytic foot that it will no longer become distorted. If any strong muscles are still pulling the foot out of shape, these muscles can be transplanted into the front or back of the foot so that they will give good power of flexion and extension and assist in the locomotion without producing any deformity. Most of our work of the years past in the simple transplantation of tendons, however well done, was done on an incorrect theory. At the present time we bend our efforts to making a foot which will be strong in flexion and extension, obliterating entirely the power of moving the foot laterally. We are doing many of these operations now and they, fortunately, are standing the test of time. It is safe to say that practically every case of infantile paralysis which has some permanent residual paralysis can be improved by surgery. In many cases a cripple can be made an efficient wage earning, self-supporting individual. There are some patients whose paralysis is so extreme that the patient cannot be made to walk, but,

fortunately, there are very few of them, and the farther along we get, the more cases we see who can be gotten up and made ambulatory, either with braces, or in most instances without braces. Where the back is seriously deformed, some of

the vertebrae can be fastened together by an ankylosing operation so as to prevent further deformity. This is a marked advance, as scoliosis due to infantile paralysis has been impossible to control by braces or apparatus.

FUNCTIONS OF THE SANATORIUM*

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The question is frequently asked, when is the word sanatorium used, and when sanitarium? Prior to the establishment of institutions designed especially for the treatment of tuberculosis, the word sanatorium was rarely used. Of sanitariums there were many, but the word sanitarium was applied more generally to institutions for the treatment of mental and nervous disorders, or to other diseases, the treatment of which consisted largely of physiological therapy, combined with hygienic and dietetic measures.

The word sanitarium is derived from the Latin "sanitas" signifying or pertaining to health, and is more properly used to designate a place considered simply as especially healthful—a health resort, or a place for those convalescing from some disease.

The word sanatorium is derived from "sanare" to heal, and is more properly applied to any place devoted to the healing of disease or bodily infirmity. The word might properly be applied to hospitals as well, but common usage has limited it to institutions devoted to the treatment of some particular disease.

The first sanatorium for the treatment of tuberculosis was established by Brehmer in 1859 (Goerbersdorf), and he used the word "Heilanstalt", signifying a place for healing. In America from the time that Trudeau established the first institution for the treatment of tuberculosis at Saranac Lake, the name sanatorium has been generally used, as it more nearly approximates the meaning of Brehmer's, "Heilanstalt", or healing place.

Primarily, then, the function of the sanatorium is to afford a place for the treatment, and the healing of his disease, if that be possible, of a person afflicted with tuberculosis. To the individual patient, it goes without saying, that his own restoration to health seems the most important function of the sanatorium, and so it is in his particular instance, but considered in its broader aspects, the benefits which may accrue to society in general, constitutes a much more important function, than the curing of the individual patient.

The methods of utilizing these two func-

tions of the sanatorium, as relates to the *individual* and to the *public*, will now be considered as well as the writer is able to do within the limits of this paper, and inasmuch as this discussion is intended for laymen and women, rather than for members of the medical profession especially, scientific terms, and technical methods will be avoided as much as possible.

THE PATIENT

What are the methods usually employed by the sanatorium to assist him in regaining, and retaining, his health?

The sanatorium treatment of tuberculosis from the beginning has been based upon three cardinal factors, fresh air, proper food, and rest, and, with the addition of some refinement of carrying them into effect, these still constitute our chief armamentarium in combatting the disease.

For a long time prior to the beginning of the sanatorium era, it had been believed that fresh air was the most important factor in the treatment of tuberculosis; that if a person afflicted with the disease, could remain in the open air, and more particularly if that open air could be had at a high altitude, with a minimum of humidity, a cure could most readily be effected. It is just as true now as it ever has been that fresh air is essential, and that climate may exert *some* beneficial action, but neither fresh air, altitude or climate of themselves may be considered as specifics in the treatment of tuberculosis.

Early in the sanatorium history, buildings were of the simplest and most inexpensive construction. A plain log or board shack, entirely open on one side, and if possible, built in a pine forest was considered the proper thing in the way of a

* Delivered at 20th Annual Meeting of Michigan Tuberculosis Association.

building, the patient remaining in the shack, exposed to all the vicissitudes of weather. In fact it seemed to be rather assumed that the greater the exposure and suffering of the patient, the more likely was a cure to be expected.

In the early nineties of the last century, came into sanatorium construction the King leanto which offered some advantages over the forest shack. This consisted of two wards or wings of a building capable of accommodating eight or ten beds each, these two wards being connected by a warmed central dressing or living room in which bath and toilet facilities were provided. The patient wards were entirely open to the front, except that screens were sometimes provided to exclude flies and mosquitoes.

Then came greater comfort to the patient in the form of warmed dressing corridors in the rear of the patients wards. Still later came the era of individual sleeping porches for the sanatorium and the advantages of these became so manifest to the general public that today there is seldom a well planned house that does not have one or more sleeping porches. All this for the purpose of securing fresh, pure air at all times, which is of course most essential.

The *second* of the sanatorium trinity is food. Not only proper food, but for a long time forced feeding was practiced. In addition to three regular meals it was thought necessary for the successful treatment of tuberculosis, that the patient should have from six to ten eggs daily, with two or three quarts of milk, together with a liberal allowance of cod liver oil, etc. This forced feeding all too often resulted in wrecking the digestive system by the addition of large quantities of milk and eggs taken between meals.

Rest, the last of the sanatorium trinity was for a long time considered least important of the three, but in recent years it has come to be recognized as the very pillar of successful treatment.

On admission to the sanatorium the patient with active tuberculosis should be put to bed, and kept at rest, until temperature and pulse have been reduced to normal and *maintained* at that, for at least two weeks, and better still for a month. The time necessary to attain this result will depend entirely upon the patient's condition, and how conscientiously he carries out the program of absolute rest, both mental and physical. In rare cases the time necessary for this may be less than a month, but in

others it may require many months. Be the rest period longer or shorter, the time will be well spent, for in no other way can the disease process be so quickly arrested, and the more conscientiously and consistently that rest is maintained at the beginning of his sanatorium life, the sooner and more lasting will be the arrest.

The patient has much to learn of what may seem to us very elementary. Nevertheless he must be *taught* and particularly how to rest, for upon this depends the difference between recovery and failure. Not only must *he remain* in bed but he must learn to relax mentally as well as physically. A patient may remain in bed and yet, because of worry and anxiety, or constantly tossing about, or giving way to every impulse to cough actually secure but little real rest.

With reference to the matter of *cough*. Most patients cough more or less and to them it is a part of their disease. They believe they must cough. Their mental picture of a person suffering with tuberculosis—or consumption as they are likely to think of it—is that of a coughing, hacking individual. To learn that it is not necessary to cough comes as a surprise to them, yet in a large percent of the average sanatorium patients, proper instruction on the part of the physician coupled with a willingness on their part to make an effort to repress the cough, will result in ability to control it, so that when there is material in the throat to be disposed of, it can be done practically without effort. Add to this the assurance to the patient that not only is it unnecessary to cough, but that every cough he does suppress saves his lungs from further destruction, and gives them a better chance to heal, and it is surprising what effect can be obtained in this way without resorting to the use of any drugs for the control of cough. It is true that a certain percentage of cases cannot be trained or that there may be some local source of irritation that makes it impossible to entirely repress the cough, but these constitute but a small per cent of sanatorium cases.

When we consider the method of healing of the diseased lung, that it is accomplished by the deposit of fibrous or scar tissue in and about the infected area, and that this tissue at first is very fragile and easily damaged by unnecessary coughing, boisterous laughing and talking or *any* undue exercise that puts a strain upon heart and lungs, and may in a moment undo the efforts of weeks, we must realize

the necessity and value of rest. Even after all constitutional symptoms have disappeared, return to exercise should be carefully supervised, and kept well below the point of fatigue.

I am not unmindful of the fact that for a considerable proportion of cases, simple bed rest, however conscientiously it may be maintained will not be sufficient to bring about an arrest of the disease. Surgical intervention in the form of pneumothorax, phrenicotomy, thoracoplasty or other means may be necessary but these measures are all for the purpose of bringing about added *rest* for the diseased lung.

If sanatorium care has been instrumental in bringing about an arrest of the disease, what other function or functions has the sanatorium, so far as it relates to the patient?

It must instruct and educate him to so care for himself after leaving the institution that he may maintain his health. It must instruct him in the nature of the disease so that when he goes out, he may by precept and practice, teach others with whom he may come in contact, how to live so as to avoid, if possible, the contraction and development of tuberculosis in them. To be, in fact, a home missionary of health. In this way will the sanatorium perform its most important function to and through the patient.

THE EDUCATIONAL FUNCTION OF THE SANATORIUM TO THE PUBLIC

This is becoming quite rightly, its greatest function. Surely the greatest single factor in the reduction of the tuberculosis death rate in our country has been the educational propaganda of the organized agencies such as this, and its affiliated local and national agencies. Broadcasting the early and suspicious signs of tubercu-

losis has taught the general public enough so that in a good many instances, it actually becomes necessary for the patient to convince his physician that he has tuberculosis, rather than the reverse, which ought to be the situation. Where better than the sanatorium can the general practitioner learn to recognize tuberculosis, and brush up on what he already knows? Any medical man knows how to recognize advanced tuberculosis, but he does need often and again to check up on his ability to recognize early tuberculosis. And if there is co-operation between the sanatorium and the physicians of the surrounding territory, much can be accomplished. It may sound absurd, but it is a fact that there are altogether too many physicians who are afraid to go near a sanatorium. It should not be necessary for the sanatorium to do any educational work along that line. Nevertheless it is, and frequent contacts with local medical associations can do a great deal to establish better relations between the profession and the institution. And the physicians should after all, be the warmest supporters of the institution.

With the support of the medical and nursing profession, together with an interested and intelligent public, a splendid start toward the eradication of tuberculosis has been made and not the least of these agencies has been the sanatorium.

There is much yet to be accomplished, however, and so we ask for, and confidently expect a continuation of this splendid support with the hope that well within the lives of many who are living today, tuberculosis may be brought under control, and cease to demand its annual toll of so many valuable lives.

Let us continue the slogan, "Make the Sanatorium the First Resort, rather than the Last Resort in tuberculosis."

ACUTE LARYNGOTRACHEOBRONCHITIS

Twenty-four cases of acute laryngotracheo-bronchitis of such severity as to require the introduction of a tube to prevent asphyxiation are reported on by Harry L. Baum, Denver. Eighteen of these cases were due to epidemic acute respiratory infections. Two were secondary to measles. Four were subsequent to the presence of foreign bodies in the lung, namely, peanut, popcorn, watermelon seed and bean. Tracheotomy alone was done in thirteen cases; intubation alone in seven, and both in four. In the ten fatal cases: Tracheotomy alone was done in eight; intubation alone in one, and both in one. In the twenty-four cases it was necessary to remove bronchial plugs or aspirate obstructive secretion in ten. Of these, tracheotomy was done in nine and intubation in one. Five patients recovered and five died. Bronchitis alone was diagnosed in eight;

bronchopneumonia in seven; lobar pneumonia in three; influenzal pneumonia in two, and chest examination was negative in four. Of the twenty-four patients, ten died. All fatal cases were of the epidemic respiratory type. The two patients with measles and the four with foreign body recovered. One patient with measles (patient 2) died suddenly two months later from unknown cause. Bronchopneumonia was the cause of death in four; lobar pneumonia in three, and the epidemic type of influenzal pneumonia in two. One died from plug formation in the smaller bronchi. Streptococcus hemolyticus was recovered from the bronchial secretions in eight cases; streptococcus viridans in two; the influenza bacillus in two; pneumococcus in two; staphylococcus hemolyticus in one, and the organism was undetermined in the others.—Journal A. M. A.

HEALTH EDUCATION AND THE PUBLIC HEALTH OF THE FUTURE

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In his admirable essay of the "Evolution of the Modern Health Campaign," Professor Winslow divides the history of the movement into three periods. First, the period dating from 1840 to 1890, characterized by the application of environmental sanitation especially as effecting water, sewage disposal, quarantine, and the like. Second, the period dating from 1890 to 1910 witnessing the phenomenal advance in the control of the communicable diseases through the application of the newer knowledge of bacteriology. And third, the present period dating from about 1910, characterized by its dominant motive, the education of the individual in the principles and practices of good personal hygiene.

Concerned as we are, at present, with health education and the public health of the future, we are confined as it would appear to the third of these three outlined periods. It will profit us, however, before going further into our specified theme to review the preceding periods, and to see what causative relationship there exists among them.

Within that space of seventy years, from 1840 to 1910, is encompassed the greater part of the achievements of modern medicine and public health. How great these achievements are—few of us are competent to appreciate, save in a remote and impersonal manner. For most of us, gathered here, have been born unto the advantages of modern medicine. The horrors of the plagues that beset and oft made dismal the lives of our ancestors are known to us only by hearsay. What know we of bubonic plague? What of smallpox, typhus, yellow fever, or even of typhoid? Only rarely now is there a sporadic outbreak of one of these diseases, the flaring up as it were of the dying embers of a fire that throughout the history of mankind has consumed more human lives than all the wars of the world.

But see how these plagues cast their sinister shadows over the lives of our forefathers. Read if you will Pepys' description of the 1665 Plague of London, or DeFoe's narrative but faithful portrayal of the ravages of this fearful epidemic, an epidemic that killed one in every four of London's inhabitants, that soured the milk of human kindness and snuffed charity out of the hearts of men, that loosed the bonds of friendship and of filial love, that converted most men into haunted beasts, fearful of all about them, seeking only to escape from an invisible impalpable enemy, that stalked through the country wide.

Or, coming nearer home, read Dr. Ben-

jamin Rush's description of the 1793 yellow fever epidemic in Philadelphia, an epidemic that killed one out of every ten inhabitants, and that through the fear and panic it engendered, made men belie the boast of their fair city—Philadelphia, the City of Brotherly Love.

The literature and the recorded history of mankind contains many a vivid portrayal of the ravages of the plagues that were rampant in the days previous to the development of modern medicine. Reading these, and contrasting the experiences of our forefathers with our own, we can secure some idea of how far we have progressed.

Smallpox, typhoid, cholera, yellow fever, malaria, bubonic plague, typhus,—these were once major causes of disease and death—today, at least in the civilized communities, they are of secondary importance, if not merely clinical curiosities. Add to these the diseases which if not eradicated, have at least been substantially reduced, diseases like tuberculosis, diphtheria, the diarrheal diseases of children and the like, and we begin to approximate the measure of greatness in health achievement witnessed in the period previous to 1910.

But now having contrasted the old with the new, having reviewed the roll of the diseases conquered,—seeing further how life has been prolonged from an expectancy at birth of forty years, in the time of our great-grandfathers, to a life expectancy of fifty-nine years for our children, having considered all this, it is but proper that we should ask how did it come about? What were the forces that made for this progress?

Progress of any kind is usually the resultant of many forces, and among these certain are commonly outstanding. The outstanding forces responsible for our great health progress may be given under three divisions—and these are: Individual genius, enlightened government, and advancing economic conditions.

* Delivered at the 20th Annual Meeting of the Michigan Tuberculosis Association.

How can one account for the conquest of smallpox without taking into consideration the contribution of individual genius? Smallpox was a disease as old as mankind itself and for centuries continued its ravages unabated and unchecked. Then, but a while ago, an English country-town practitioner, somewhat bored by the duties of his every day practice, literally stumbled across an observation which brought to the surface the genius within him and gave us the first great immunological instrument and the weapon with which to conquer smallpox. How great an achievement this was, may be judged by the enthusiasm with which the world received vaccinia, the all powerful weapon against the dread disease smallpox.

No less a role did individual genius play in the conquest of yellow fever. Less widespread, but more destructive than smallpox, yellow fever slaughtered thousands upon thousands of victims. I have already mentioned the great Philadelphia epidemic of 1793, in which one out of every ten inhabitants died. Between 1702 and 1800 yellow fever raised its destructive hydra-head in the United States no less than thirty-five times. And from 1800 to 1873 yellow fever appeared somewhere in the United States every single year. You know how the Panama Canal construction attempted by the French was rendered fruitless by yellow fever. And you know how this same disease hampered the work of the United States engineers, until Reed and Gorgas solved the riddle of yellow fever. Here again it was individual genius, involving now not one but several individuals, that won for mankind victory over one of its great enemies. It was Reed and his commission that capped the brilliant work of men who had come before him, finally solved the puzzle of yellow fever.

Numerous were the contributions which individual genius made to our great health progress, but individual genius alone would hardly have sufficed to bring us as far on the path of public health progress, had not enlightened government applied for the welfare of the community the scientific facts discovered by the genius of individuals. One pointed, though negative illustration of this, is the story of Semelweis, the great Hungarian physician, who even before our poet scientist, Holmes, discovered the infectious character of the child bed fever. It was Semelweis who observed that child bed fever, usually terminating in the death of the delivered

mother, was most common where the physician was "most unwashed." He urged common cleanliness and sanitation on the part of the physician attending the woman in labor, but in spite of the fact that his observations were correct and that his advice was fundamentally sound, he was too much ahead of his time and neither the government nor his colleagues were enlightened enough to benefit by his observations. Poor Semelweis was jeered at for his trouble, until the bitter injustice he suffered upset his mind. After Jenners' great discovery was demonstrated beyond all shadow of doubt; practically every civilized country in the world made vaccination compulsory. The results were phenomenal. Smallpox was robbed of its terror. Individual genius and enlightened government combined to make living safer. Now there remains for consideration the third great force, that of advancing economic conditions.

In discussing this item, I am usually tempted to draw my illustrations from certain phases of the history of New York city. We have, as some of you may know, a section in Brooklyn known as Flat Bush. Now Flat Bush is not Indian for Beautiful View—Flat Bush simply means what it says and justly describes the section to which the name is applied, a section flat, marshy and overgrown with swamp bushes. Before New York city became greater New York, Flat Bush was the olympia of mosquitos and the breeding place of the transmitters of malaria. Dr. Smith, the founder of the American Public Health Association, once told me how when he was health officer of the city of New York he had tried to persuade the city fathers to have mercy on the city citizens and to allow him sufficient funds for the eradication of the public health nuisance existing in Flat Bush. The city fathers were deaf to his plea and the citizens of New York continued to take their dose of quinine with the same regularity as their weekly baths. Then New York began to sprout and grow. Manhattan became crowded, the population began to overflow into Brooklyn, realtors, then known as real estate agents, discovered that Flat Bush could be exploited as a home colony site and like good business men they made two bungalows to flourish where formerly grew one mosquito. The marshes thus being filled, the mosquitos were dispossessed, malaria disappeared, our malaria wards were turned over to other specialities, and the public health was improved.

The realtors were not public health minded, but advancing economic conditions induced their contribution to the betterment of public health.

New York city can now boast of an excellent water supply and a fairly good sewage system. Coming to New York you may drink water with a sense of safety, having no fear of typhoid. But this wasn't always so. In the days of the backyard outhouse and the backyard well, typhoid was common in the city. Its elimination was promoted by the later day developed sewer system and our great water systems. But, these were brought into being more in response to the economic needs of our community than because of the demands of public health. Whatever the motives may have been the ever advancing economic conditions have made their substantial contribution to the furthering of public health. And thus we see, how the operation of the three main forces, individual genius, enlightened government and advancing economic conditions, have brought us to that stage of high public health development prevailing today.

And now, what of tomorrow, and what of the day after. Are we to continue making the same progress as we have made in the past and will this progress be due to the operation of the older forces, or must we develop new ones?

In the realm of economic science, there is a law known as the law of diminishing returns. This law maintains that all economic investments, even though paying well at first, must in time decline in the profits returned. This law seems to operate as well in the realm of public health endeavor as in that of economics. For we see how in many a field our investments in effort, with the passing of time brings ever smaller and smaller returns. Consider for example our tuberculosis movement and note how our rate of progress has declined of late, and almost in inverse ratio to the efforts we've invested in the movement.

The law of diminishing returns certainly seems to effect the operation of the three forces we have enumerated before. Great as has been the progress made in the past, we may not hope for as much in the future, unless new forces be brought into operation. And this must be readily evident, not all of the outstanding diseases are amenable to control by the genius of individuals, by enlightened government, or by advancing economic conditions. There is available a vaccine that will immunize us against smallpox, but because of this,

may we also hope for a vaccine that will immunize against bad mental hygiene. There are laws operating to compel the pasteurization of milk but may we ever hope to spread among the people the good sense needed to drink milk, by placing laws upon our statute books?

Even where individual genius and enlightened government have made their contributions, because there is oft lacking a something else certain diseases remain unconquered. Allow me to illustrate my meaning by a consideration of diphtheria. You know that we have both a positive cure and a positive safeguard against this disease, and yet, every year in my community, and I believe, in yours, too, there are scores and scores of children needless victims of diphtheria. Why? Individual genius has done its part in discovering the cure—antitoxin and the preventative—toxin-antitoxin. Enlightened government has contributed its share toward the war against diphtheria. And yet, the final battle has not as yet been won. Why? The answer is generic.

The great public health progress of the past has been made without the active co-operation, oftentimes without the sympathy, without the understanding, and even against the opposition of the average man and woman in the community. Our citizens have been the passive recipients of the benefits of public health, in the promotion of which they have had no share and played no role. What had the average man in the street to do with the elimination of typhoid or with the control of malaria. Far too often, the average man's appreciation of public health is confined to the begrudging conformity with laws that are a nuisance to him, and the significance of which he does not understand. But now, if we are to continue making progress in public health, this condition must be changed. Our citizens must be made to join the army of public health, they must serve as soldiers in the war against disease and not be, as so many are, slackers, in ignorant league with death and disease.

But to enlist our citizens in the army of public health they first need health education. It is to health education that we must look to for new momentum in our public health progress. It is health education that will be the driving force of the public health movement of the future. And that this is no vain prophecy may be seen from the following. Consider, if you will certain of the present day health problems.

Consider for example the problem of mental hygiene or the problem of social hygiene or the problem of the so-called degenerative diseases. Is there any hope that these problems may ever be solved, save through the education of the individual? Certain it is that we can hope for no serum, vaccine, pill or powder that will endow a man with good mental habits and safe-guard him against bad mental hygiene. All the laws of all the statute books, since time immemorial, have as yet failed to eliminate or solve the social hygiene problems. And I know that no medicament that has as yet proved effective in keeping the go-getting American from wearing himself out prematurely. On the other hand, health education seems to hold out some promise in the solution of these problems.

Consider further this phase in the matter. The public health movement of the past concerned itself primarily with the conquest of disease and the prolongation of life. The modern public health movement has learned to appreciate that life has more than one dimension, that a long life is desirable, but a healthy as well as a long life is preferable. The modern public health movement has set itself the task not only of eliminating disease and of prolonging life, but also of improving the qualities of existence, and here health education plays its prominent role. For much of good health depends upon the intelligent utilization of our body resources—an intelligence which each individual must possess and which he can acquire only through health education.

In the past public health has done things for the individual, now, to frame it tersely, the individual must be taught to do things for himself. He must be health educated.

And now there is but one more point that I would like to consider and that is the part the practicing physician is to play in the promotion of health education. It is a regrettable but historically correct fact that the public health movement in the United States and for that matter of fact throughout the world, came into being, developed and flourished without the aid and often despite the opposition of organized medicine.

At first blush this is a shocking realization and yet one easily explained. The profession of medicine is an individualist profession and its practitioners by heritage, training and tradition look with suspicion if not hostility on all mass movements. Time there was when this attitude was justifiable, but as relates to the public health movement that time is long past. Organized medicine and the private practitioner now has it incumbent upon him to join the public health movement and to do his proper share of the work. This he must do—or he will be left behind.

And to my mind there is no phase of the public health movement where the physician can function as well as in promoting health education. He has the necessary technical knowledge and exceptional opportunities. All he needs is a little training in pedagogy, and the willingness to pitch in.

A prophet is not without honor save in his own home town—I'm not in my home town—so it's safe to play prophet. And it is safe to prophecy that in the public health movement of tomorrow—health education will be the dominant force. Wise then is the public health leader of today who sees the sign of the time and prepares for tomorrows' service.

DISEASES AFFECTING DISTAL HALF OF COLON

Among the roentgenologically demonstrable diseases that affect especially the distal portion of the colon, from the splenic flexure to the rectum, the three most common, Alexander B. Moore, Rochester, Minn., says, are diverticulitis, cancer and ulcerative colitis. Of much less frequent occurrence are benign tumors, cicatricial strictures, tuberculosis and Hirschsprung's disease. In addition to these the roentgen ray is often called on to reveal the ramifications of fistulas and for the study of postoperative conditions, notably after resection, ileosigmoidostomy. Moore discusses these conditions and how the roentgen ray is useful in their detection. He says that on reviewing the list of diseases to which the colon is subject, it is apparent that most of them, when advanced, give rise to pronounced and diagnostic signs. Early lesions are

less emphatic in their manifestations, less easily discovered and more difficult to distinguish from each other than equivalent lesions of the stomach, and the reasons are obvious. The stomach is comparatively small, can be inspected from every angle, has definite motor activities which are altered by disease, and even minute deformities of the gastric contour are usually significant of disease. On the other hand, the colon is many feet in length, is hard to study from different angles, seldom evinces any definite motor phenomena during the period of examination, and any small irregularities of contour which it may exhibit are likely to be meaningless. Yet certain of these handicaps can be offset, and the diagnosis of colonic disease made more efficient, by active co-operation of the roentgenologist, proctologist and clinician.—Journal A. M. A.

SPINAL ANESTHESIA

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Many of the profession have failed to realize the great value and true scope and the relative safety of spinal anesthesia. Many have hesitated feeling injection of a fluid such as novocain is not without its toxic effects which, when once administered, are beyond control of the operator. F. C. Mann¹ states that prolonged ether anesthesia is conducive to shock, lower blood pressure and subnormal temperature. A prolonged etherization causes pulmonary congestion, a protective increase of mucous along the respiratory tract to the irritation of the anesthesia, small petechial hemorrhages can be noted along the bronchial tree following a general anesthesia. All these conditions provide a fertile field for pneumonia or pulmonic infections. Pulmonic emboli may follow any type of anesthesia but the fertile field that is made by an inhalation anesthesia makes the lung more susceptible to the ravages of pulmonic emboli.

An inhalation anesthesia has an irritant affect on the kidneys and may develop transient albuminuria or granular casts.

The heart is always quickened arising to 90 or 100, and during an active second stage damage may be done to a susceptible heart at this time as well as bodily damage by the rough handling which is often necessary to control the patient during this stage.

Blood cell destruction has been noted in general anesthesia, as an increase in blood platelets, also the haemoglobin decreases and the number of corpuscles increases. Coagulation time is increased during general anesthesia.

It is conceded that all anesthetics have an element of danger and with the statistics I will mention that spinal is one of the safest. Infiltration or block local is of course the safest; the more simple method of spinal should have a greater field than local, because of the general lack of skill on the part of the surgeon in applying local anesthesia.

The statistics for general anesthesia according to Stewart in order of safety are:

Nitrous oxide, 1 death in 300,000 cases; Ether, 1 death in 15,000 cases; Ethyl chloride, 1 death in 12,000 cases; Chloroform, 1 death in 3,000 cases.

Gwathey⁵—Nitrous oxide, no death in 8,258 cases; Ether, 1 death in 5,623 cases; Nitrous oxide ether, 1 death in 6,905 cases; Chloroform, 1 death in 2,048 cases.

At Eloise Hospital 150 cases have had spinal with no deaths and no complications other than few immediate difficulties that

might arise at any time regardless of the anesthesia used. McMullen⁶ in a large series of cases had no reaction when injection was made below the second lumbar vertebra with use of the Pitken solution and the Pitken technic. Anesthesia can be safely produced to any point above this level, the diaphragm the limit. Sarnoff Jacob¹², reports 100 cases without one death and 10 per cent failure in anesthesia. Valdone P.⁷ reports 500 cases of spinal anesthesia with tutocain with no ill results. Brindeau⁸ and Lantuejoul performed spinal anesthesia in 296 obstetrical cases and stated complications and fatalities were so rare as to be negligible. DeMio⁹, reported 565 laparotomies under spinal with no serious consequences. Coulten¹⁰ has used spinal anesthesia in 1,500 operations and has not had a single case of death. Boris Rapoport¹¹ reports 500 cases and states that serious complications are rare but cases should be carefully selected.

Campbell¹³ reports two deaths in 100 cases. These cases being poor risks to begin with. Jose Azquierdo¹⁴ gave this type of anesthesia 100 times with no death. Thirteen had subsequent symptoms following which all cleared up. John T. Burns¹⁵ reports 100 cases with no serious results.

From examination of the literature, 3,711 cases of spinal anesthesia with three reported deaths and questionably attributed to spinal anesthesia. I feel that statistics will compare favorably with the statistics in other types of anesthetics.

It can now be admitted that spinal anesthesia from the standpoint of toxicity is safer in its immediate and remote affects. There is a growing tendency at the present time to the use of spinal anesthesia; a common knowledge that spinal anesthesia is safe; is not unpleasant to take and is not without the untoward affects of general anesthesia.

The failure often noticed in spinal anesthesia is not the fault of the anesthesia but to a faulty technic; (a) failure to

* Dr. J. E. Watson graduated in 1921 from the Detroit College of Medicine and Surgery. He is Associate Surgeon to the Detroit Receiving Hospital and to the Eloise Hospital.

properly inject the solution in the sub-arachnoid space; (b) oversterilization weakens the potency of the novocaine. (c) A too prolonged anesthesia; the novocaine losing its efficacy after an hour is not unusual. The usual danger in the administration of spinal anesthesia is immediate and the surgeon should be ready to meet this emergency; this also applies to general anesthesia and appropriate methods are instituted in either case.

CONTRAINDICATIONS

One of the contra-indications of spinal anesthesia is its effect in lowering the blood pressure and pulse, which renders it necessary that the surgeon should so familiarize himself with the condition of the patient before operating. He should be aware of its limitations and should thoroughly acquaint himself with the patient's general physical condition, so as to rule all things that would be attributed to a faulty spinal anesthesia, such as neurological disorder, enlarged prostate. The contra-indications to spinal are: Emphysema, hypotension, hysteria, neurosis, hemorrhage, sepsis and cerebral arterio-sclerosis, a patient who is in shock or is moribund; advise general anesthesia or institute proper procedures at the onset of the operation to maintain the blood pressure and pulse.

HISTORY OF SPINAL ANESTHESIA

Spinal anesthesia, although only recently widely used, was first introduced in 1885 by Cornery, again in 1899 Bier attempted its use and again it rapidly fell in disfavor because of the dangerousness of the anesthetic used. The administration of the spinal anesthesia should be done by the operating surgeon not to relegate it to assistants or interns, subsequent failure will only prejudice the surgeon against its further use. After the successful injection of the anesthetic observation of the patient from the anesthetic viewpoint is not through, the continued observation of the pulse, respiration and blood pressure should be taken at frequent intervals; the anesthetist must of course watch signs just as he or she would in general anesthesia. This anesthetist should be a person of mature judgment who will guard against disquieting remarks that only disturb the patient. The establishment of faith in the patient's physician is necessary. The slightest disturbing factor may cause the patient anxiety and thus render all efforts ineffective.

Post-operative discomfort is in direct

proportion to the prolonged anesthesia and extensiveness in handling of organs, exposure of tissues and hemorrhages, all these are lessened with spinal because this kind of anesthesia does not permit such manipulation.

If the patient objects to spinal he may be informed that he can go to sleep if he so desires and if during the operation there are reasons for failure, you may substitute a general anesthesia.

If the surgeon is doubtful about his spinal anesthesia or skill narco local anesthesia may be added.

Difficulty may be experienced with certain patients from various social strata, age, sex or general intelligence. It is not usually advisable to discuss the type of anesthesia with the patient before operation but should be left to the discretion of the operating surgeon. Word received by the patient from alarmists or a preliminary argument may antagonize him to the type of anesthetic under consideration.

If pre-operative, the patient has partaken of a meal it is not a serious handicap. Post-operatively it is unusual for the patient to vomit. There is no operative struggle as is noted in the second stage of general anesthesia. Post-operative thirst is reduced to minimum because the patient may soon take fluids and some nourishment.

The patient under this type of anesthesia will not allow shifting traction, rubbing of the peritoneum, undue traction on the viscera or mesentery; the surgeon is not allowed to thrust his arm within the abdominal cavity to do a general exploration because of a questionable diagnosis or because some one long ago advised examination of the entire abdominal cavity.

ANNOYING HEADACHES

The most constant complaint following this type of anesthesia is headache which will usually subside, the proportion running as high as 30 per cent; the persistent headache may be relieved by aspirin, thio-bromine or an intravenous injection of sterile water about 30 to 250 c.c. A few have complained of bladder disturbance, some slight nausea and vomiting, some painful sensation in legs. All symptoms subside in twenty-four hours, occasionally lasting as long as a week.

It is agreed that spinal anesthesia is not anesthesia for all type of cases but is one of choice, second only to local anesthesia in wide usefulness.

In closing let us state there are disad-

vantages to all forms of anesthesia. It is the number of these that will determine whether any given method will prevail. With the comparative statistics I have given you, it seems reasonable that spinal is a relatively safe anesthesia and the dangers may be charged largely to poor technique.

SUMMARY

1. Scepticism should be overcome.
2. General anesthetics have their ill effects.
3. Spinal anesthesia is a relatively safe anesthesia.
4. Failure due to faulty technic.
5. Surgeon should familiarize himself with contra-indications.

6. A trained anesthetist should watch the patient during anesthesia.

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THE TREATMENT OF VASCULAR LESIONS OF THE EXTREMITIES*

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Peripheral arterial lesions have created widespread interest among the surgical profession in the past few years. The outlook for these cases has been so hopeless that with the advent of every new phase of therapy in general, new forms of treatment have been suggested, both medical and surgical, for the relief of these diseases. The vascular system has been attacked directly as well as indirectly through the vasomotor system. The seriousness of impending gangrene in the aged is important primarily from a sentimental point of view. In the individual suffering from thrombo-angiitis obliterans, however, we have to deal with those who, having one major amputation after another, become an economic loss to the community; and it is towards the relief of this group of cases that most of the research has been directed. Vasomotor disturbances, usually called Raynaud's disease, form a very small percentage of vascular lesions. This term, however, is used rather loosely and is frequently seen in hospital records referring to thrombo-angiitis obliterans. Many other terms are used synonymously; such are Buerger's disease, pre-senile gangrene, end-arteritis obliterans, Hebraische krankheit, and spontaneous gangrene. That thrombo-angiitis obliterans should be the term applied to this lesion, there seems little doubt, since Buerger's accurate description of the pathology. It is with this group of cases which we particularly wish to deal, on account of its progressive nature and the unsatisfactory manner in which it has yielded to the many forms of treatment that have been suggested. There are many other terms referring to vascular lesions found in the literature; some of these are erythromelalgia, causalgia, ther-

malgia, trophoneurosis, and acrocyanosis. These may be definite entities, although we believe that most of them should refer to symptomatic stages belonging to one of the two groups in which we wish to place all peripheral vascular disturbances.

Therefore our classification is as follows:

- I. Vasomotor disturbances.
- II. Obliterative arterial diseases.
 - a. Thrombo-angiitis obliterans.
 - b. Arteriosclerotic gangrene.

Differential diagnosis is frequently very difficult and we realize that there would doubtless be some disagreement among authorities as to our classification. We feel, however, that simplicity is important and aside from the differentiation which we have set forth, we do not believe that a further subdivision would be advantageous from the standpoint of treatment. In the vasomotor group we have placed those cases with good peripheral pulses, with intermittent symptoms and with a neurological background. Under thrombo-angiitis obliterans we have placed those cases, regardless of nationality, below the fifth decade in life, with symptoms of long-standing, whose peripheral pulses are

* Read before the Surgical Section Michigan State Medical Society, September 27, 1928.

* From the Surgical Service of the Massachusetts General Hospital, Boston.

obliterated, whose arteries are not visible by X-ray, and whose oscillometer readings are low. We do not differentiate arteriosclerotic lesions associated with diabetes from true senile gangrene, as the process is the same regardless of the comparative youth of the diabetic. In arteriosclerotic gangrene we have patients whose symptoms are rapid in onset and of short duration, and their arteries are visible by X-ray. In the early stages of all these lesions the diagnosis is usually obscure. This, added to their comparative rareness, leads to ill-advised operations on corns, calluses, and ingrowing toenails, thus precipitating gangrene in many border-line cases. Practitioners should school themselves in palpating the dorsalis pedis and posterior arteries in patients presenting themselves with painful feet. When these pulses are absent or faintly palpable, operation should not be done until a careful study has been made of the entire situation.

The treatment of vascular lesions of the extremities should be conservative. This is particularly true when the disease affects the young wage-earner, and it is in this class of individual that thromboangiitis obliterans is most common. Many palliative measures have been advocated, such as rest, elevation, and prolonged exposure to superheated air, repeated large hypodermoclyses of Ringer's solution daily, intravenous injections of sodium citrate solution, intravenous sodium iodide, large quantities of Ringer's solution by duodenal tube, and postural exercises. Some of these methods have been found excellent adjuncts to various surgical procedures which we have tried, although our experience would indicate that few cases would respond to these measures alone. Among the surgical procedures, Von Oppel suggested ligation of the femoral vein, Wietung an arteriovenous anastomosis, and Lewis a ligation of the femoral artery. Recently Morton has suggested ligation of the popliteal vein, and Oppel has reported 130 adrenalectomies for the relief of similar disorders. Leriche devised the operation of periarterial sympathectomy for all conditions with inadequate peripheral circulation, and with this operation we have had considerable experience and do not believe that the results obtained warrant the procedure, particularly in cases of thromboangiitis obliterans. A definite hyperemia is obtained by this operation, and if it could be repeated at weekly intervals would undoubtedly materially aid in the

establishment of a collateral circulation; the beneficial effect, however, is of short duration and obviously cannot be repeated at will. Royle's procedure of sympathetic rami-section, devised for spastic paraplegia, produces a prolonged increase in surface temperature in some cases. Adson has reported several cures in thromboangiitis obliterans by this method, and Mixter has two successful cases thus treated. This operation is a major one and cannot be done without mortality. We believe it should be reserved for a carefully selected, small group of cases that fail to respond to less drastic procedures. The ideal management of these cases is not easy to determine. The fact that the disease requires prolonged treatment, necessitating in some cases months of hospital care, must be balanced against the shorter method of treatment by amputation. Economically an individual with a major amputation is, as a rule, materially handicapped; on the other hand, hospital beds in most localities are not sufficient in number or endowed in such a way that semi-chronic cases can be treated. It has been our hope to establish a method whereby the major part of the time consumed in the conservative management of such cases could be carried on in an ambulatory fashion. This, of course, varies with different individuals. In the treatment of this disease it is our aim to relieve pain until nature has produced an adequate collateral circulation or until there is a spontaneous remission in the disease. We have also hoped to find some means of speeding up the establishment of an adequate circulation to the affected part.

Goodman and Gottesman published their results in four cases of thromboangiitis obliterans treated by non-specific foreign protein. They used typhoid vaccine intramuscularly with apparent good effect, but so far as we are able to determine did not continue its use.

Following the suggestion of Brown, about two years ago, we used small doses of intravenous typhoid vaccine as a non-specific foreign protein to ascertain the amount of vasomotor involvement in various vascular diseases of the extremities. At this time we were still trying to attack the problem through operations on the sympathetic nervous system. During these experiments we found that the relief of pain, the increase in surface temperature, and the improvement in the appearance of the lesion produced by intravenous typhoid vaccine was equal in amount to

the reaction produced by periarterial sympathectomy. It then occurred to us that this reaction might be reproduced indefinitely without harm to the patient and it was found that once a proper dose of vaccine was established for an individual case, that the reaction could be repeated at will with the same dose at intervals of not less than seven days. If the vaccine was given more often than once a week, the same dose of foreign protein would not produce the same reaction. During the past two years we have treated sixteen cases of thrombo-angiitis obliterans, five cases of vasomotor disturbances, and nine cases of arteriosclerotic gangrene by intravenous typhoid vaccine. A summary of the results obtained will be found in Table 1. The results are better than by any method of treatment that we have tried. Twenty-four of the thirty cases entered with complete disability. Seven cases in the group of thirty required major amputations, and are tabulated among the "not improved." Twenty-one of the entire group were improved sufficiently to return to their former occupations.

The technique of the procedure is comparatively simple. It consists in giving the patient a measured dose of mixed typhoid vaccine into the vein in an aseptic manner. We have used vaccine prepared by the Massachusetts State Board of Health. It consists of typhoid bacilli and paratyphoid A and B, in which there are twenty-five hundred million organisms per cubic centimeter. In comparatively young individuals we have used an initial dose of one hundred and twenty-five million organisms or one twentieth of a cubic centimeter. In arteriosclerotics we have used much smaller doses and advocate an initial dose in this class of patients of fifty million bacilli. A tuberculin syringe and fine hypodermic needle should be sterilized by boiling, the desired amount of well-shaken vaccine drawn into the syringe, the median baccilic vein in then punctured in an aseptic manner and blood withdrawn to half-fill the syringe. The contents of the syringe are then injected into the vein. A typical reaction takes place. For the first thirty to sixty minutes the patient sees no change. He then begins to have chilly sensations, which rapidly increase until a real chill develops. This is associated with severe headache and increase in pre-existing pain and elevation of mouth temperature. The height of this reaction usually comes from two to three

hours following the injection, and in many cases is so severe that morphine is necessary. The desired mouth temperature is 103°F. The chill first subsides and then the temperature gradually returns to normal, reaching its former level at the end of five or six hours from its peak. During the early part of the reaction the extremities are colder than normal, and are cyanotic and more painful. Then comes an increase in surface temperature in the affected extremity, associated with relief of pain. This beneficial change lasts for several days after mouth temperature has returned to normal, and it is on this prolonged peripheral hyperemia in the affected part that the efficacy of this treatment is based. If the amount of foreign protein given produces a reaction which is too severe, or too mild, the next dose is decreased or increased accordingly. The discomfort of a reaction which produces a mouth temperature of over 103°F. is more than the average patient is willing to bear. Individuals differ in this respect, some minding the uncomfortable sensations less than others. We have had a considerable number of patients whose symptoms were mild and without gangrene who have preferred to get along with their intermittent claudication or cold extremities rather than to submit to further treatment.

Up to July of this year we had given one or more treatments to over fifty individuals. The sum total of these treatments was over three hundred injections, varying in amount from twenty-five to five hundred million bacilli. This included twelve arteriosclerotic individuals, six of whom had more than one injection. We had not been aware of any harm from the treatment in any case up to that date. Then we had an extremely arteriosclerotic individual, who was also a tabetic, apply for treatment with dry gangrene of the second toe of the right foot. He had had trouble with his legs in the form of intermittent claudication for six years. At one time the left leg bothered him much more than the right. During the past five years he had been through two extensive operations on his stomach for ulcer, and during the past year a successful repair of a fractured patella on the left side. At the time of his last admission, however, there was no ulceration or gangrene on the left lower extremity. He was given seventy-five million organisms into the vein, following which he had a typical reaction. During that part of the reaction when the ex-

tremities are colder and pain is increased, he developed excruciating pain in the left leg. This pain did not subside and the next morning it was obvious that a complete occlusion had taken place in the popliteal artery. A diagnosis of thrombosis was made and under local anesthesia the thrombus was removed from the popliteal artery and the popliteal vein was ligated. The circulation came back into this extremity, relieving the pain, but the thrombus reformed three days later and extended well up into the femoral vessel. A removal of this thrombus did not restore the circulation, and mid-thigh amputation was resorted to twelve days after the initial thrombosis. We were informed, just prior to this, of a similar thrombosis occurring in the affected leg of a diabetic with arteriosclerotic gangrene, who had received her fifth dose of typhoid vaccine in a neighboring hospital. This patient had received two hundred and fifty million baccilli at the time of her thrombosis. Since this time we have had one individual with an arteriosclerotic toe which was partially gangrenous, develop an increase in pain, in the toe following the treatment, which necessitated an earlier amputation of the toe than would have otherwise been done. We have also noticed in one very arteriosclerotic man with intermittent claudication who had had some cerebral lesion three years before, a mild recurrence of his cerebral disorder which cleared up in about four days. In addition to this we have had a few cases of thrombo-angiitis obliterans and arteriosclerosis, who not only have failed to get any relief from pain, but have had no change in the surface temperature, and no benefit in the gangrenous part following the treatment. These cases, however, are the exception rather than the rule and are set down in Table 1. We believe that the best explanation for the thrombosis that may take place is evidenced by Dr. Frank Fremont-Smith's observations on the capillary circulation following the intravenous injection of typhoid vaccine in cases of epidemic encephalitis. He has shown that the blood corpuscles flow through the capillaries at a very much reduced rate during the period of cyanosis and decrease in surface temperature and increase in pre-existing pain which has been observed during the pre-chill stage of the reaction. This slowing of the capillary circulation is probably associated with a slowing of the entire peripheral circulation. Given vessels

with decreased elasticity, with calcified places protruding into the lumen, a thrombosis may occur from any condition which will effect the normal rate of blood flow. This probably best explains the thrombosis which are prone to occur in these individuals during any acute infection. The capillary circulation can be observed to pick up its normal rate of flow with the rise in mouth temperature and at the height of the reaction is seen to be markedly increased over normal. It is during this increase in capillary flow that hyperemia is observed, that the thermocouple registers an increase of approximately 3 degrees of surface temperature for each degree of rise in mouth temperature, and with this stage of the reaction comes the relief of pain and the beneficial changes observed in the lesion itself. As stated above, this increase in surface temperature in many instances will last for several days after the mouth temperature has returned to normal. There seems to be, however, an occasional exception to this rule. Cases with superimposed infection do not respond in the stereotype manner and do not get the same benefit from the treatment. On the whole, individuals suffering with vascular lesions of the extremities, whose affected parts are either normal in temperature or increased, do not receive any benefit from this treatment. Due to the disasters which may occur in arteriosclerotics we feel that this form of treatment should be reserved for cases that do not respond to less drastic measures, and if the treatment is to be undertaken in individuals of this type, a very small dose of vaccine should be used and the patient, or at least his family, should be cognizant of the fact that thrombosis, in some portion of his arterial tree, is possible. In our first disaster reported above in detail, the individual was in such precarious condition that an amputation of his other leg was considered unwise. His pain in the affected extremity was so great that four small doses, varying from thirty-five to fifty million, have been given during the past six weeks with marked relief from pain for periods of two or three days following each injection and there has been no spread of the gangrene, nor has there been any tendency to further thrombosis.

We have attempted to establish the tolerance for this treatment in various individuals while the patient is in the hospital, during which time the obvious

hygienic measures have been adopted; rest, elevation, and postural exercises. As soon as the patient can be made ambulatory, he is sent home and reports back at frequent intervals to the out-patient department. Many cases do well on this regime and can obtain satisfactory results by treatments at properly spaced intervals. Some of them have continued to work while under treatment. It is not always easy to determine the indication for another injection. The interval between treatments must not be more often than once in seven days. Many cases with ulceration will progress favorably with intervals as long as four weeks between treatments. Such factors as lack of progress in the healing of the ulceration, a further drop in the local surface temperature, and a return of pain sufficient to interfere with sleep are used as guides to determine the advisability of the next injection.

TABLE I

	Vasomotor Diseases	Thrombo- Angiitis Obliterans	Arteriosclerosis With and Without Diabetes	Total
No. of Cases Treated.....	5	16	9	30
Average Age	31	42	57	—
Average Duration Symptoms (years)	1.7	4.4	0.5	—
No. with Complete Disability On Admission	2	13	9	24
Minor Surgery Necessary	0	3	2	5
Major Surgery Necessary	0	3	4	7
Average No. of Treatments.....	3	7+	5	—
Average Duration of Treatments (months)	7	5.3	3.5	—
Marked Improvement	4	12	5	21
Not Improved		4	4	8
Complete Disability Now, Includ- ing Cases with Major Am- putation	0	5	4	9

OLD AGE AND UNEMPLOYMENT

The average duration of life among the ancients, according to L. I. Dublin, was probably not over twenty years. Today, in the United States, the expectation of life is about fifty-eight years. Undoubtedly the medical profession has been a major factor in the production of this triumph. But progress brings new problems, and the world is now faced with the question of what to do with the increasing numbers of persons who have passed the age of 65. In 1890, 3.9 per cent of the total population were aged; at present, 5 per cent fall in this class. At the same time, in 1890, of men 65 years of age or over, 73.8 per cent were gainfully employed, whereas in 1920 the proportion had been reduced to 60.1 per cent. The Secretary of Labor looks with deep concern on the situation and believes that part of the reason for it is the custom of discharging older workers. In former days there may have been reason for releasing the occasional man at the age of 50. Bone and brawn were then more necessary in manual labor than they are now. Furthermore, a man of 50 frequently was old

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and felt so. Now, physical burdens are less, and with an increase in the span of life the productive period is longer. The employer who discharges a worker at 50 or 40, because he is old, "is contradicted by every mental and moral trend of the times," says Mr. Davis. Such a policy is also contradictory to present-day medical opinions of physical fitness, provided bodily condition is periodically checked up by medical examination. Medicine recognizes the danger in industry of varieties of incapacity which are more frequent as age approaches. However, with modern knowledge of the precursors of these conditions it would be possible to select those whose condition might require discharge or retirement. It is not necessary, or wise, to sacrifice persons with valuable experience for the sake of an arbitrary and irrational age rule. Medical opinion, utterance and service are qualified to exert telling influence on this aspect of the national problem of unemployment. To do so would be a benefit to medicine as well as to industry.—*Jour. A. M. A.*

A NEW TECHNIQUE IN THE SURGICAL TREATMENT OF RAYNAUD'S DISEASE

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HISTORY

Symmetrical gangrene was first described as a clinical entity by Raynaud, a French clinician, in 1862. Symptoms of the disease appear in the history of early times. No doubt, Robert Bruce and King Edward III suffered from arterial angiospasm and many cases of leprosy were doubtless late stages of this disease. Some cases of trench foot were probably angiospastic conditions.

SURGICAL TREATMENT

Jaboulay in 1899 described the operation of periparteriorrhaphy which has been accredited to Leriche and was advocated by the latter in 1913 for the relief of Raynaud's disease. Other methods of surgical treatment have been described. Adson and Brown recommend a ramisectomy, ganglionectomy, and perivascular sympathetic neurosectomy. Goltz, as far back as 1874, called attention to the fact that vasodilatation resulted from section of the sciatic nerve. Davis and Kanavel have removed the middle, inferior and stellate ganglia with the cervical sympathetic chain on one side for relief of Raynaud's disease of the upper extremity.

OPERATION

On the case reported below a ganglionectomy was done on the right side on December 3, 1926, following the technique of Kanavel and Davis. The cervical sympathetic ganglia and chain were removed, including the stellate ganglion and connections. Because of the beneficial effects of the operation on the right side it was decided on February 11, 1927, to do a similar operation on the left side. When the operation was begun the manipulation of the carotid sheath with its contents, including the vagus nerve, resulted in stoppage of the heart, since the accelerator fibers to the heart on the opposite side had been severed at the first operation. It was then decided to do a ramisectomy on the left side.

TECHNIQUE

Approach: The technique which we employed in our approach in both operations

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was similar to that of Davis and Kanavel with the exception that we found that a



(Kanavel and Davis)

Figure 1

Shows the cervical sympathetic ganglionic chain and stellate ganglion being removed lateral to the sterno-cleido mastoid muscle. The authors removed these structures medial to the muscle. In a recent stellate ramisectomy Dr. McClintic used the lateral approach as shown above.



(Kanavel and Davis)

Figure 2

Relation of the middle cervical sympathetic ganglion to the inferior thyroid artery.

straight instead of a "hockey stick" incision gave sufficient room for approach, and we retracted the sterno-cleido mastoid muscle laterally and did our operations from the medial side of the muscle.

Ramisectomy: After exposure the cervical sympathetic chain was followed down to the stellate ganglion. The gray rami from the stellate ganglion to the brachial plexus were exposed, lifted on a right angle hook and cut with scissors.

ANATOMY

The text books give the impression that the rami from the stellate ganglion to the

brachial plexus are quite short (see illustration Figure 3 from Toldt) and as exposed at operation only about 1 c.m. of their length is seen. In our dissection on the cadaver they are found to be about 10 c.m. in length. Figure 4, made from an actual dissection, shows them exposed in their entire length after reflecting the scalene anticus muscle (s.a.m. Fig 4). In securing the rami at operation it is very essential to include that one which passes to and through the inferior cervical ganglion.

PHYSIOLOGY

While it has been reported that negative results follow ramisectomy in the upper part of the body, yet our results were identical with those following gangliectomy and periarteriorrhaphy. The physiological basis for this procedure is well founded. The vaso-constrictor nerves pass from the stellate ganglion to the brachial plexus and by cutting the rami at their exit all vasoconstrictor impulses to the arm are interrupted. The second advantage resulting is that the sympathetic nerves to the head, (eye, face, nose, mouth, etc.,) neck and heart are not interfered with as in excision of the ganglia.

One of us, in visiting Leriche's clinic in the summer of 1927, elicited the information that when he fails with a periarteriorrhaphy in the lower extremity, he then resorts to a ramisectomy.

REPORT OF CASE

C. M., Negro, age 22, railroad worker. Patient was brought to Receiving hospital, Detroit, Michigan, by the police department as a drug addict. He was admitted to the psychopathic ward, where this other condition was discovered and he was then transferred to the medical department.

Chief Complaint: He complained of intense pain of the fingers of both hands and slight pain of the anterior surfaces of both tibia. The patient dates the onset of his present illness from May, 1924, and states that his drug addiction was brought about by the use of morphine for his excruciating pain.

Past History: In May, 1924, while working in a railroad camp, he injured the little finger of his left hand. At the same time the camp was quarantined for smallpox and he, along with the rest of the men, had to be vaccinated. Patient claims that he had a severe generalized infection which was accompanied by swelling of the fingers of both hands and the shins. He was unable to walk, had chills and high fever, and was sent by ambulance to a County hospital in Chicago. At this time he had severe neuralgic pains in all of his fingers and pus was exuding from the little finger of his left hand. This infection extended up the arm and became so severe that an incision was made above the wrist and a rubber tube inserted, which had to remain for six or eight weeks for drainage of thick matter. During all this time he had a tingling and burning in all his fingers, associated with numbness and intense

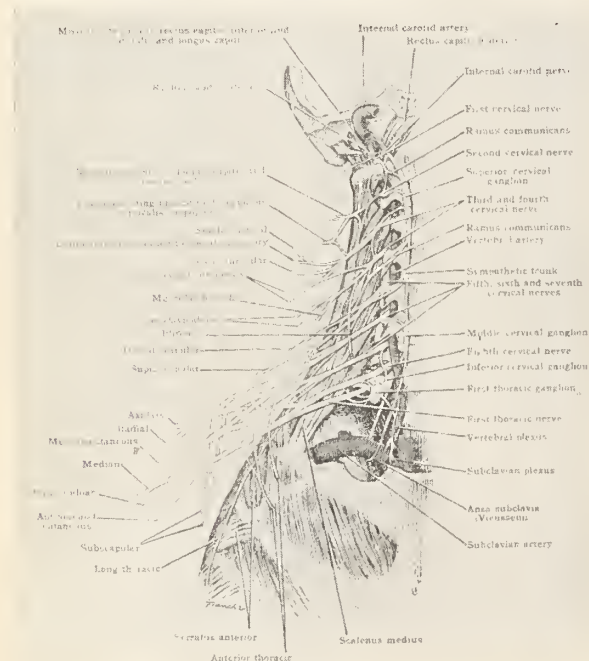


Figure 3
After Toldt, "Atlas of Human Anatomy," Rebman, London and New York.

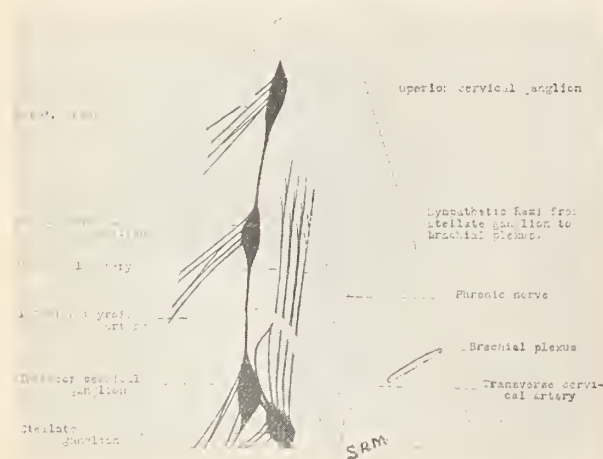


Figure 4

The above drawing is from a dissection showing the length of the rami from the stellate ganglion to the brachial plexus. The scalene anticus muscle (s.a.m.) has been cut and turned downwards to show the full extent of the gray rami.

pain. A short time later his right hand, fingers and arm followed the same course as the left. The tips of his fingers became ulcerated and whitened with pus in back of the nails. The tips of the fingers were incised and a large amount of pus escaped.

He was sent to the best hospitals in the surrounding territory where various diagnoses such as "sclerodactylia," "Raynaud's disease," "scleroderma" and "thrombo-angiitis obliterans" were made. He was given all the morphine he wished and was told that he would "rot away" and that he could never get well.

He came to Detroit the first of May, 1926, and entered the hospital the latter part of the same month, where his fingers were incised to allow drainage. He left, however, before a careful study could be made.

He returned and was admitted to the hospital November 11, 1926. His condition was gradually becoming worse. He had had various amputations of distal phalanges and the entire third left finger. Parts of the tips of the other fingers had sloughed and were very painful, particularly when exposed to the cold. Because of this fact he kept them under the blankets most of the time. He also complained of pain over the anterior surfaces of both tibia at about the junction of the lower and middle thirds. The skin covering the hands, fingers and shins was edematous and glossy. Pulsations of both radial and dorsalis pedis arteries were easily palpated. He lost 10 pounds in weight in the last year.

He had measles and mumps in childhood; pneumonia nine years ago; gonorrhea ten years ago. No history of leucic infection. Alcoholic history negative. Has never had sore throat. Family history is essentially negative.

Routine daily urine analyses were negative. Blood counts and differentials revealed nothing but a slight secondary anemia. Examination of affected parts for leprosy was also negative. Spinal fluid and blood Wassermann were negative. Temperature was of the septic type and was 101° on admission. The pulse was 100 per minute and respirations were 20.

X-ray report: X-rays of the chest, feet and hands revealed the following:

Hands: Marked bony atrophy in all the bones of the hand. There is slight bone necrosis in all the distal phalanges, especially marked in the left and right little fingers and right index finger.

Feet and Legs: Reveal slight degree of atrophy, but no bony absorption as in the hands.

Chest: No areas of infiltration or consolidation. No abnormal findings of the bony cage.

Patient was examined by several neurologists, surgeons and internists, most of whom agreed on a diagnosis of Raynaud's disease.

An operation was performed by Doctors C. F. McClintic and W. J. Seymour on December 3rd, 1926. A right cervical ganglionectomy was performed under gas and ether in the following manner:

A straight incision was made anterior to the right sternocleidomastoid muscle, extending downward from opposite the thyroid cartilage to the clavicle. The skin and platysma muscle were divided. The sternocleidomastoid muscle was freed down to its insertion on the sternum and pulled laterally. The carotid artery, jugular vein and vagus nerve with the sheath were retracted medially. The sympathetic chain was then found posterior to the carotid sheath. The rami of the superior cervical ganglion were cut with the sympathetic trunk and the nerve then freed. The

inferior fibers were cut as they were encountered. The inferior thyroid artery was next uncovered by blunt dissection and the encircling sympathetic fibers cut. The inferior cervical ganglion was freed and the sympathetic chain was dissected down to the stellate ganglia and the ganglia and chain were excised. Bleeders were tied off and the incision was closed with clips.

An uneventful recovery followed. After the operation the patient had a Horner's Syndrome. Of this he had been advised.

Immediate relief from the pain in the right hand and fingers resulted. In a few days he was leaving his right hand on top of the blankets instead of in its usual place beneath them. When asked why, he replied that it was warm and comfortable and that exposing it to cold did not cause him pain. Patient is well pleased and is constantly begging that the same operation be done on the other side.

In order to afford him relief from pain in the left arm, it was decided to operate again. On February 11th, 1927, the rami to the brachial plexus were severed on the left side.

Patient made a complete recovery and in a few days an examination revealed that the patient was free from pain and that the surface temperature of both arms was above normal. The arms felt warm and exposure to cold did not cause pain. Pupil on the left side constricts on being exposed to light. This we should expect, since the nerves to the left eye were not severed. On the right side the sympathetic chain, middle, inferior and stellate ganglia were removed, resulting in Horner's syndrome. On the left side only the gray rami to the brachial plexus were severed so that the sympathetic branches to the head region and heart were not disturbed.

Following the operation there was evidence of vasodilation with increased arterial supply, with relief from subjective and objective manifestations of the disease. The patient was greatly improved and was well pleased with the results obtained in both operations.

(Note: We are indebted to Austin J. Howard, M. D., resident surgeon of Receiving hospital, for the report of the case as given above.)

PATHOLOGY

The underlying symptoms of Raynaud's disease are due to an abnormal sensitivity of the vasoconstrictor nerves, with continuous and intermittent types of spasm of the smaller arteries and arterioles of the extremities. The threshold of stimulation of the vasoconstrictor fibers is low to cold and to psychic influences. The color changes observed in Raynaud's disease are dependent on the arterial constriction. Syncope indicates a complete arterial closure for varying periods of time and little or no blood in the capillaries or small venules. Asphyxia which supervenes after a time is due to the passing of small amounts of blood into the capillaries from the arterioles, and a stasis of the blood. Complete capillary stasis has been observed for from 20 to 30 minutes. The capillaries become more dilated during the longer periods of stasis, the blood becomes blue, and the marked cyanosis of the ex-

tremities complete the clinical picture of the capillary phenomena.

CONCLUSION

We feel that from our experience and the anatomico-physiological basis upon which the operation is predicated that the operation of choice for Raynaud's disease is that of ramisectomy. It rests upon a scientific basis, it is a simple procedure and is free from the objection to a periarteriorrhaphy in that it does not result in any damage to blood vessels.

Our experience proves conclusively that ramisectomy in the upper part of the body gives the same results as are obtained in the lower extremity from a ganglionectomy and ramisectomy.

We feel that periarteriorrhaphy may have a place in surgery, but that it is more limited in its application than ramisectomy, and the latter operation gives the same results and is more inclusive in its application and at the same time it is possible to control or limit the effects more nearly to the areas desired.

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THE EDUCATION OF THE DIABETIC*

FRANK S. PERKIN, M. D.

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In recent years, there has been a regrettable tendency in the medical profession toward the assumption that with the discovery and utilization of insulin, the problem of the diabetic, if not entirely solved, has at least been greatly minimized. The fact that the incidence and death rate is unquestionably increasing, is either unknown or ignored. (1). The extent of this increase can be shown by the fact that whereas in 1900, diabetic deaths in New York numbered 12.3 per 100,000 population, by 1924 were 21.4; in the same period Philadelphia increased from 9.1 to 17.0 and Baltimore from 9.3 to 23.8. The death rate in Detroit in 1926 was 16.0. in 1927, 17.6 per 100,000.

Much of this increase can be explained on the basis of a greater accuracy of vital statistics, more frequent life insurance examination, routine urine examinations, and to some extent, by the increase in the Jewish population, among whom the disease is markedly prevalent. Unquestionably, however, there has been an actual increase in the incidence of diabetes mellitus, possibly as a result of lack of proper physical exercise with an over-abundant diet, resulting in obesity. The fact remains that there are more diabetic deaths today than in the pre-insulin period. In insulin we have a most potent weapon wherewith to fight

this disease. It would appear that our efforts have not been so successful as we have a right to expect.

Certain objectives are necessary in the management of the diabetic:

1. To restore the patient to as nearly normal as possible and keep him so.
2. Give him a livable diet, as varied as possible.
3. Educate the patient regarding the rules he must follow, in order to obtain the best possible results.

The effort to restore the patient to normal includes the removal of foci of infection and treatment of inter-current diseases so common in these cases, particu-

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larly tuberculosis, hyperthyroidism, syphilis and hypertension. Over 70 per cent of the diabetic patients seen at Receiving hospital show the presence of some such condition.

Having brought the patient to as near the ideal state as possible, the question of keeping him so is linked up with the prevention of arterio-sclerosis and premature old age. Arterio-sclerosis has been shown by pathological examination to be present in 85 per cent of 10-year diabetics, and over 50 per cent of all diabetic deaths at the present time are the result of cardiovascular and renal disease. Their prevention is aided largely by a reduction in weight to normal, just as in the individual who does not have diabetes. Whatever the role of various diets in the production of arterio-sclerosis may be, a certain factor is the presence of obesity or overweight. The difference between the diabetic and non-diabetic is that in the former we have, or should have, complete control of his weight through his diet.

The question of the diet is the one that is most unsettled. The practice in this clinic is to use a diet relatively low in calories, few of our out-patients receiving over 2,000 calories daily. They are weighed weekly, however, and once a normal weight is established, sufficient calories are given to maintain them at that level. An indefinite period of undernutrition is usually a valuable aid in treatment. Our diets are to be classed as relatively high in carbohydrate, the ketogenic ratio being rarely above 1.5 and usually much lower. While this is not the place to argue the advantages of this type of diet, there are many points in its favor.

EDUCATION OF PATIENT

It is in the third objective, the education of the patient, that I believe our greatest failure has occurred, and to this failure can be ascribed the lack of more favorable figures. There is no disease in which so much of the responsibility for the patient's well-being rests with the patient himself, as in diabetes mellitus. Consequently, it is of utmost importance that the patient understand his condition and methods of treatment. One of the largest clinics has given a striking demonstration of what can be accomplished by a policy of detailed instruction. In 1914, 61 per cent of their diabetic deaths were from coma; in 1926, a number of years after the introduction of insulin, 20 per cent died in coma. (2). Last year, of 42 deaths, 91 per

cent from known causes, there was not a death from coma. (3). Johns, in his last 2,000 cases, has had 59 cases of coma with 11 deaths. In the last 45 cases of diabetes treated in Receiving hospital, there were 11 cases of coma, of which 8 died. In justice to the hospital, it should be stated that none of these cases had been previously treated at this institution; however, in the light of the previous figures, the majority of these must be looked upon as avoidable deaths, due to lack of education upon the part of the patient and I fear, at times, of the attending physician.

What, then, is the knowledge that must be imparted to the diabetic?

First, he must understand something of the underlying pathology of his condition; that it is a disease of carbohydrate metabolism resulting from a lack of insulin production by the pancreas; second, he must be taught to test his own urine for sugar and to understand the significance of the result.

His diet must be carefully explained to him, along with the simple facts of dietetics. This is to enable him to vary his diet correctly when necessary, as in traveling. One of the advantages of the comparatively high carbohydrate diet used in this clinic is the ease with which substitutions may be made, as it most closely approximates the normal diet. He must be warned against the complications that may arise. The common story of a severe diabetic coma is that with the development of anorexia and vomiting, insulin was discontinued for fear of a reaction with an increase of acidosis and gradual drifting into unconsciousness. Such events are easily initiated by mild infections, whose dangers should be impressed on the patient. He should be told that whether he eats or not, the body continues to burn calories with the difference that the food is supplied by the body itself and insulin is still necessary in the process. The patient then understands the necessity of uninterrupted insulin therapy. The fact is that if a patient starts vomiting, he needs more insulin with large amounts of fluids by all routes. The importance of a daily intake of at least two quarts of fluid must be stressed. It has been my observation that the average controlled diabetic, in place of the polydipsia he formerly exhibited, has a tendency to drink too little water. Many cases showing an apparently inexplicable ketonuria will have this removed by insuring a larger fluid intake.

The mechanism of an insulin reaction

requires explanation and an excellent method is to allow the patient to have a slight reaction so that he will in future recognize the symptoms. The rapid response to a small amount of carbohydrate can then be demonstrated. He must be cautioned, however, to always first test his urine for sugar. Insulin reactions in the presence of glycosuria are extremely improbable and what has been mistaken for the symptoms of an insulin reaction may be those of an early acidosis.

The patient receiving insulin must be shown the measurement of his dosage, not only in units, but in cubic centimetres, as both types of syringe are in use. The principles of sterilization and danger of infection are points to be stressed. If he is receiving large doses of insulin, it is well to instruct him not to inject in the same place any oftener than can be avoided, as it is believed that under these circumstances absorption becomes delayed or incomplete, probably as result of a slight inflammatory reaction. In this connection it is of interest that insulin is relatively ineffective in oedematous patients.

In addition to diet and insulin, we have in exercise a further method of lowering the blood-sugar and so treating diabetes. The tendency of some diabetics to show a high morning blood-sugar can often be combatted by instructing them to perform some exercise or labor in the early morning.

Cleanliness, particularly of the extremi-

ties, is essential in the diabetic and many cases of gangrene may thus be avoided. Insistence on daily washing of the feet, particularly in diabetics over 45, would appear in our clinic, at least, to be the ambition of an incurable optimist. In private practice, it is also a subject to be approached with considerable tact. Its importance, however, is great.

Finally, the diabetic must be made to understand that his future is far from hopeless; that by following instructions and barring severe infections, his chances of living to old age are as good, or better, than that of presumably normal persons. He has the advantage of being forced to lead a careful and sensible life. Encouragement is necessary in order to build up the patient's morale.

It is by the above means that the diabetic statistics of the future will be improved. Joslin has at present a mortality rate of 3.5 per cent among 1,329 patients (4) the majority past the fourth decade of life. What can be accomplished there can be duplicated generally, if the importance of the neglected details of diabetic instruction and treatment is realized.

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NO COLDS WHEN DIET IS LOW IN SUGAR AND STARCH

The old adage, "Feed a cold but starve a fever," needs amending. The kinds of food you eat are now considered important as well as the amount and may have a definite effect on the number of colds you have this winter. A diet that is low in sugar and starch proved successful in keeping one susceptible subject from having any colds at all as long as the diet was adhered to, according to a report in the forthcoming issue of *Science*, by Frederick Hoelzel of the University of Chicago. Mr. Hoelzel, who has been an extremely frequent sufferer from colds all his life, discovered in the course of experimental work that he had no colds at all when he fasted. Further experiments with various diets showed that while colds were numerous on vegetarian diets and on diets containing large amounts of sugar and starches, when the diet contained no more than 500 calories of sugars

and starches in a daily total of 2500 calories, ordinary colds did not develop. At the same time the protein intake must be adequate. The explanation of this lies, Mr. Hoelzel believes, in some as yet undetermined relation between the amount of fluid in the body's tissues and their sensitiveness. A considerable amount of water is stored in the body with carbohydrates or starches and sugar. When the carbohydrate intake is lowered, the amount of it and of water stored is lessened, and, according to Mr. Hoelzel's theory, the sensitiveness of the tissues is also lessened, so that a cool breeze or exposure to damp chilly weather will not be so apt to result in a cold. It may be that the freedom from colds in Arctic regions depends more on the Arctic diet, high in meat and low in sugar and starch, than on the cold weather or the absence of germs.—*Science Service*.

VARICOSE VEINS

H. O. McPheeters and Carl O. Rice, believe that the treatment of varicose veins by the injection method should not be attempted by those who are not aware of the complications, as an unduly zealous individual may bring into disrepute through errors in technic a very satisfactory mode of treatment. The mortality rate following the injection treatment of varicose veins is much less than with the operative treatment.

There is not, as yet, one solution alone which can be considered entirely adequate for every purpose. Each solution has quite definite indications. The injection treatment of varicose veins has passed the experimental stage and has been proved to be a very rational form of treatment which should be accepted as supplanting other well recognized methods of therapy.—*Journal A. M. A.*

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

THE EIGHTH ANNUAL PUBLIC HEALTH CONFERENCE

A cordial invitation is extended to all physicians in the state to attend the eighth annual public health conference to be held in Lansing on January 9, 10 and 11, 1929. Headquarters will, as usual, be at the Hotel Olds.

The conferences are sponsored by the Michigan Department of Health and the Michigan Public Health Association, and they mark the annual meeting of the latter organization. Last year there was an attendance of 316 physicians, health officers, public health nurses, sanitary engineers, and interested laymen, representing every section of the state. From the response already received there will be an even larger group this year.

The 1929 conference program lays special emphasis upon two topics of major interest in public health—the latest developments in the control of communicable diseases, and county health department practice. The communicable diseases selected for consideration are diphtheria, scarlet fever and smallpox. Three state health commissioners and the surgeon general of the United States Public Health Service have been invited to speak on this symposium program which will occupy the entire opening session on Wednesday afternoon, January 9, and should prove exceptionally interesting.

The question of the county health department is of unusual importance in Michigan at the present time, and almost an entire session is devoted to this topic. An experienced county health officer will give the main paper, with four discussants.

The health department and industry, the hygiene of maternity and infancy, roadside water supply inspection, immunization against diphtheria, tularemia, mouth hygiene, and the prevention of blindness are some of the other topics to be discussed. All of the speakers are specialists in their line, and many of them are of national reputation.

The program of the sessions will gladly be sent upon request.

UNDULANT FEVER

The American Public Health Association is publishing nine papers on "The Relation of Bovine Contagious Abortion to Undulant Fever in Man", presented at the annual meeting in Chicago in October. The

papers are by national authorities, and discuss the clinical, bacteriological, statistical and experimental aspects of the disease. The symposium will be ready about January 1, it will sell for one dollar or less—depending upon the cost of publication—and it will furnish a most complete and up-to-date resume of the data on undulant fever. Full particulars can be secured from the offices of the American Public Health Association, 370 Seventh avenue, New York city.

INFANTILE PARALYSIS

Michigan Department of Health has a pamphlet on the subject of "Muscle Training in the Treatment of Infantile Paralysis." It is revised from an article which appeared in the Boston Medical and Surgical Journal, and reprinted by permission of that journal. This bulletin is of special interest to physicians, and will be sent to any physician in the state on request.

The department also has a six page article on the "Aftercare of Infantile Paralysis." This will be sent to parents and others interested in the intelligent supervision of poliomyelitis cases after the acute attack.

D.M.G.

MOUTH HYGIENE IN PRACTICE

That the life of the Director of the Bureau of Mouth Hygiene is a strenuous one is proved by the record of his travels. We quote a typical month's report to show the scope of Dr. Davis' varied activities:

"On Monday, October 1, we spoke to the Hancock High school and Rotary Club, in the afternoon to the Houghton High school, and in the evening to the Copper Country Dental Society at a dinner meeting at the Douglass hotel. There was an excellent attendance of as friendly a bunch as can be found anywhere. The next day we went to Ontonagon, where we spoke in the evening to one of the largest parent-teacher groups we have ever addressed.

"On the following morning we spoke to the high school and county normal students and examined the critic room of the County Normal. The county nurse and teachers were very appreciative and anxious to co-operate in every way.

"In the afternoon we took the only bus to Ironwood. The arrangements were for an address before the County Medical So-

ciety, to which the local dentists were invited and which was held at Wakefield on Thursday evening. The physicians of the Gogebic iron country are especially interested and we had a good time with them. There was no school the last two days of this week on account of a teachers' institute, and this prevented any school programs originally intended, but we had some interesting conferences. Monday noon, October 8th, we arrived in Iron River and were met by all three of the local dentists and the school nurse, who had arranged for an examination clinic at the school in the afternoon.

"We found we could leave in time for a conference with the school nurse at Crystal Falls that evening, and left there early next morning for a very busy day in Iron Mountain, which included addresses before the high school, Junior High school, Rotary club, Kingsford High school, examination clinic and an address at P. T. A. meeting in the evening. Dr. O. F. Brauns of Iron Mountain gave the slide lecture, 'The Mouth and Its Message,' before the Upper Peninsula Teachers meeting, and we heard many favorable comments, and he just writes to send it again for another appointment. On Wednesday we had an examination clinic with the school nurse in Vulcan and spoke before the high school, and repeated this same program in the afternoon at Norway, where an especially good group of mothers were present at the examination.

"In the evening we rode with Doctors Sturtz and Williams to the Fifteenth District dental meeting at Powers. This is the largest district in the Upper Peninsula and an excellent number of dentists were present from Iron River, Iron Mountain, Norway, Crystal Falls, Escanaba, Menominee and Hermansville.

"Thursday we spent in Escanaba and spoke before the high school, Junior high school, and had three examination clinics. Friday in Menominee we spoke before the high school and had an examination clinic with 18 mothers present on a very rainy forenoon; had lunch with local dentists at noon; spoke to the County Normal and examined some pupils before them, and addressed the Junior high school, and also the P. T. A. in another section of the city.

"That night we took the night sleeper for Chicago and attended the American Public Health Association and American Child Health Association meetings the following week. Also attended a meeting of the committee on mouth hygiene and

public instruction of the American Dental Association office.

"The next week was spent in catching up at office after an absence of almost six weeks. It included, however, an examination clinic at Zeeland on October 24, and conference with county nurse, dentist and superintendent of schools in Zeeland, and the Sixth District meeting at Owosso on the 25th and a conference with our associate editor, Dr. Rickert, on the 28th. We had been invited by Superintendent Cook of the Harbor Beach schools to spend Wednesday, the 31st, there, and we spoke to the Rotary club at noon and had an examination clinic and conference in the afternoon and also spoke to the physiology class of the high school.

"We stopped off at Mt. Clemens on the way back for a program, November 1, in Macomb county.

"W. R. D."

PROGRESS IN THE COUNTY NORMAL PROGRAM

The lecture series for county normal training classes, begun the first of November, is being enthusiastically received all over the state. Thirty-six counties are already on the itinerary, with requests still coming in. Five staff members give the series of 12 lectures, and the material is especially planned for practical application in the rural schools. The list of counties to be visited follows:

Allegan	Kalkaska
Alpena	Lapeer
Antrim	Lenawee
Arenac	Manistee
Barry	Mason
Bay	Mecosta
Benzie	Menominee
Branch	Missaukee
Calhoun	Montmorency
Charlevoix	Newaygo
Chippewa	Oakland
Eaton	Oceana
Genesee	Osceola
Gladwin	Presque Isle
Grand Traverse	Saginaw
Ingham	Tuscola
Ionia	Wayne
Iosco	Wexford

TRAINING FUTURE MOTHERS

Of all the varied activities of the Bureau of Child Hygiene and Public Health Nursing, the program of Child Care Classes for girls from 10 to 16 years of age is one of the most promising.

The idea of such classes really originated with Dr. Josephine Baker, who started them in the tenement districts of New York. It was there, in the foreign quarters, that the name "Little Mothers"

Leagues" was first adopted, a name that was used in Michigan also until very recently. The change to "Child Care Classes" follows the trend of the psychology of the modern girl. Child care still carries its strong appeal, but not under the more or less sentimental caption of "Little Mothers' Leagues."

Ten lessons make up the course, one given each week for a period of ten weeks. The subject matter is general background of infant and child care—feeding, bathing, physical and mental development, and prevention of disease. Demonstrations are an important part of the instruction given. The classes are always in charge of nurses, and certificates are awarded those girls satisfactorily completing the course.

Since the child care classes were first started in Michigan in 1922, a total of 2,988 groups have been organized with a combined attendance of 197,736 girls. This is a nucleus, at least, of informed mothers for the future. At present there are three nurses on the staff of the Bureau of Child Hygiene and Public Health Nursing devoting their entire time to this work, in addition to the many local public health nurses who are carrying it on, so the nucleus is constantly growing.

DIPHTHERIA IMMUNIZATION IN ST. JOSEPH COUNTY

An intensive program of diphtheria immunization is being carried on in St. Joseph county by the local physicians and health and school authorities, assisted by two lecture-organizers from the Bureau of Education of the Department of Health. From November 12 to November 27, a total of 45 lectures were given and 17 organization conferences were held. Practically every organized group in the county will have been reached when the educational campaign is completed. It is hoped that a large percentage of the school and preschool children will be given toxin-antitoxin. All immunizing will be done by the local doctors.

MONTCALM DEMONSTRATION TO CONTINUE

The demonstration prenatal nursing program carried on for the past three months in Montcalm county is to be continued for an additional three months' period at the request of the local physicians. Harriet Szymczak, R. N., is the department nurse assigned to the demonstration.

The maternal mortality study is prog-

ressing satisfactorily with Dr. Knowlton now in Kalamazoo county. Up to December 1, a total of 1,092 maternal deaths had been studied, and practically every county in the state visited. The Jackson County Auxiliary asked for a talk on the study, and this was given by Dr. Lillian Smith, director of the Bureau of Child Hygiene and Public Health Nursing. Dr. Smith also discussed it before the Blackwell Medical Society of Detroit, at their invitation.

Work on the new water supply and sewage disposal system at Camp Grayling has stopped for the winter. Rapid progress has been made since operations started at the close of the summer camp.

Continued activity is reported in the program of surveys of sewage disposal at state institutions. This is a part of the general program in stream pollution control.

VISITS OF ENGINEERS DURING THE MONTH OF NOVEMBER, 1928

Inspections of railroad water supplies: total, 18.

Bessemer	Plymouth
Birmingham	Rochester
Calumet	Shingleton
Champion	Stambaugh
Channing	Thomaston
Detroit	Wakefield
Escanaba	Watervliet
Iron River (2)	Wells
Keweenaw Bay	

Inspections and conferences, sewerage and sewage disposal: total, 24.

Ann Arbor (2)	Holland (2)
Caledonia	Ionia
Charlotte	Jackson
Chelsea	Lansing
East Grand Rapids	Muskegon Hts. (2)
Grayling	Pontiac
Green Lake	Sparta (2)
Hillsdale	Sturgis (5)

Inspections and conferences, water supplies: total, 12.

Ann Arbor	Pontiac
Bangor	Rockford
Cassopolis	South Haven (Indian Grove)
Ira Township	Vassar
Marlette	Vermontville
Nashville (2)	

Inspections and conferences, stream pollution: total, 1.

Lansing

Inspections and conferences, institutions: total, 7.

Grayling

Lapeer (6)

Inspections and conferences, swimming pools: total, 5.

Kalamazoo, Y. W. C. A.
Kalamazoo, Y. M. C. A.
Kalamazoo, High School
Kalamazoo, Lincoln Jr. High School
Lansing, Y. W. C. A.

Inspections and conferences, camps: total, 4.

Manistee Boy Scout Camp, Sanitation (2)
Maple City, Kohahna Camp, Sewage treatment
Maple City, Kohohna Camp, Water Supply

Inspections and conferences, miscellaneous: total, 5

Davison, Drainage
Walloon Lake (Hamilton Court) Sewage treatment for resort
Memphis, Nuisance Investigation
Menominee River, Resort Sanitation
Sturgis, Sewage treatment for slaughter house

Survey of school wells in Kent county:

A total of 32 school wells were inspected and sampled

PREVALENCE OF DISEASE

	November Report Cases Reported			
	October	November	November	Av. 5 yrs.
Pneumonia	1927	1928	1927	361
Tuberculosis	326	476	361	398
Typhoid Fever	735	527	453	83
Diphtheria	44	39	62	653
Whooping Cough	398	396	496	406
Scarlet Fever	850	1,182	389	964
Measles	559	977	815	595
Smallpox	176	133	526	137
Meningitis	55	70	72	9
Poliomyelitis	40	27	12	31
Syphilis	13	8	34	1,085
Gonorrhea	1,563	1,171	1,099	819
Chancroid	1,001	575	725	12
	12	8	14	

CONDENSED MONTHLY REPORT

Michigan Department of Health Laboratories.

Lansing Laboratory—

	+	—	+-	Total
Throat Swabs for Diphtheria				2474
Diagnosis	69	351		
Release	271	1219		
Carrier	31	503		
Virulence Tests	22	8		

Throat Swabs for Hemolytic Streptococci			836
Diagnosis	110	192	
Carrier	58	476	
Throat Swabs for Vincent's	43	383	426
Syphilis			7817
Kahn	1196	6538	79
Wassermann	1	1	
Darkfield	1	1	
Examinations for Gonococci	180	1345	1525
B. Tuberculosis			494
Sputum	83	359	
Animal Inoculations	5	37	
Typhoid			121
Feces	1	49	
Blood Cultures	5	27	
Widals	5	32	
Urine		2	
B. Abortus	3	40	43
Dysentery	1	46	47
Intestinal Parasites			24
Transudates and Exudates			236
Blood Examinations (not classified)			175
Urine Examinations (not classified)			374
Water and Sewage Examinations			523
Milk Examinations			95
Toxicological Examinations			
Autogenous Vaccines			1
Supplementary Examinations			150
Unclassified Examinations			594
Total for the Month			15955
Cumulative Total (fiscal year)			74518
Increase over this month last year			3762
Houghton Laboratory—			
Examinations made—Total for the month			7552
Cumulative Total (fiscal year)			7552
Increase over this month last year			221
Grand Rapids Laboratory—			
Examinations made—Total for the month			7527
Cumulative Total (fiscal year)			31914
Increase over this month last year			1675
Typhoid Vaccine Distributed, c. c.			2255
Diphtheria Antitoxin Distributed, units			3615
Diphtheria Toxin Antitoxin Distributed, c. c.			41360
Silver Nitrate Ampules Distributed			11552
Scarlet Fever Toxin Dick Test Distributed, c. c.			1750
Scarlet Fever Antitoxin Distributed, units			127
Scarlet Fever Toxin Immunization Distributed, c. c.			3126
Smallpox Vaccine Distributed, points			3135

SPECIAL TRAINING IN RADIOLOGY NEEDED

The second of these problems is one difficult to combat, and I know of no means of remedying it except by discouraging the general men on account of the dangers which confront them and the necessary inaccuracy of diagnosis and treatment that must of necessity obtain in the absence of special training in radiology. I have been informed of the death by electrocution in the past few months of two physicians, not trained roentgenologists, in the city of Cleveland, Ohio, from lack of knowledge of the dangers in handling small office machines.

Recently there have appeared folders and advertisements in medical journals, some of which have been issued by what have been considered reliable and well established manufacturers, intended for the general office practitioner and leading to the belief that the possession of an equipment such as this manufacturer puts out is all that is necessary to bring to him great financial returns. One contains this expression: "Doctor, you too may have an X-ray machine in your office." Another manufacturer gives us this: "Every physician and

surgeon has an abundance of use for the X-ray without encroaching upon the field of the X-ray specialist. Invaluable for examining the lungs, heart, gastro-intestinal tract, extremities, for bone pathology, reduction of fractures, and localizing of foreign bodies." What, pray, is left for the poor X-ray specialist to consider his field? Still another in a general medical journal presents a catchy heading thus: "An Unusual Opportunity. An essential part of the equipment of the modern office is an X-ray fluoroscopic unit. As a means of making and confirming diagnoses it is invaluable. It adds enormously to the prestige of the physician and brings him a dominating position in his community." Should we not take some steps to prevent this kind of propaganda? Do not these advertisements show on their faces that their main object is to sell the product of these manufacturers, without due regard for the consequences?—Address of A. L. Gray, M. D., President-elect of the American College of Radiology in November Radiology.

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JANUARY, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

THE BROADER VIEW

How often, when one learns of some impending event or action, does one instinctively make the mental query, "How will this affect me and my affairs?" How often does this personal reaction occur in connection with the sequence of events which goes to make up life? This is probably a survival of the inherited instinct of self-preservation, and really is a protective reflex from which it is difficult to divorce one's self. One hears, not infrequently from the lips of mature members of the medical profession the remarks:

"I am very happy that I am not starting out in practice today. Our profession is hemmed in by so many regulations, licenses, taxes and official obligations that one's every movement must be made cautiously in order that no infraction occurs. The young graduate must contend against these as well as the unfair competition of

free and paid clinics. Industrial, social, lodge, commercial sanitarium, contract and state medicine all combine to narrow the sphere of the private practice of medicine. The inroads on the practice of legitimate medicine made by the various so-called drugless healing cults, mechano, and hydro-therapeutics, as well as by those who profess to heal by prayer and mental suggestion has still further contracted the field formerly available to legitimate practice of medicine. If I had a son contemplating the study of medicine, I should lay before him all of these facts in a very emphatic manner before I would consent to his beginning the study of medicine. While there is no calling more honorable and dignified than ours, one's usefulness as a physician cannot help but be impaired if one is under constant economic pressure."

The statements just quoted give one much food for thought. Unfortunately, the very nature of our profession breeds many individualists and too often the community consciousness is absent. Our profession is recognized as a great altruistic body of men and women working for the good of mankind. Let us not forget this in the mad rush of the life of today!

Instead of asking, "How will this or that affect me as a practitioner of medicine?", let us rather ask, "How will this affect us as a profession, as well as the public, whose health we are striving to maintain?"

For the past thirty years the Michigan State Medical Society, through its officers, council and committees, has been endeavoring to raise the qualifications of those who are practicing medicine. Our society has succeeded in having medical legislation enacted which has placed Michigan in the front rank of the states in this regard.

Our society, representing the profession of Michigan, has encountered much opposition, often of an unfair type, in securing legislative action. In an endeavor to further protect the public health we are seeking this year to secure the passage of a "professional qualifications" act for those who desire to practice one of the so-called healing arts outside of the practice of medicine.

We are also endeavoring to still further strengthen our present medical act to protect the public from incompetent and unscrupulous graduates of medicine as well as quacks, charlatans and imposters.

While conditions vary in numerous counties of our state, the fundamental

problems are the same in all. The physicians practicing in an industrial county may have different problems from those practicing in an agricultural one. The country practitioner has problems differing from those of his brother who practices in a large city.

In order to secure the greatest good for the greatest number we must overlook our personal reactions in many instances and take the broader view. When such vital medical legislation as the passage of laws designed to improve and protect the health of the public are introduced at the coming session of our state legislature, let the profession of the entire state encourage, support and stand back of the representatives of your state society who will be on the firing line this winter.

Louis J. Hirschman, M. D.

RETROSPECT

The new year is a convenient time to review the work of a medical society during the past year. The volume of contributions from our state society is much larger than in any journal published in the past, which we may assume means greater interest and study in the preparation of medical papers. It means a general realization that one's student days have only in reality begun after graduation, when he has definitely entered that greater university, namely, his professional life. Did you ever pause to consider what it cost in time and effort to produce a medical or surgical paper? When so much time and pains are taken in its preparation, how unfortunate, were there not some means of making it available and of preserving it for as many interested readers as possible. This is what this Journal is trying to do.

The quality of the published work is for the most part about all that can be desired. Great care has been shown in the preparation; this is as it should be; far better that a physician produce one paper a year of superior merit, than several which fall short of the writer's best effort. Here may be mentioned several works on the preparation of medical papers dealing with the rhetorical phase of the subject. It is almost needless to say that the editor's heart is made glad when the writer gives special attention to form, sentence structure and other details which make a medical contribution printable. The following will be found of interest to even the experienced medical writer:

"Notes on the Composition of Scientific Papers," by Sir Clifford Albutt; "The Art and Practice of Medical Writing," by Simmons and Fishbein; "The Writing of Medical Papers," by Maud H. Mellish, editor Mayo Clinic publications.

* * *

Marked progress has characterized the efforts of the Joint Committee on Health Education. Use has been made of not only the lecture, but the radio and the press, as well. Millions of readers have been reached by syndicated brief articles in the daily press. These have been found to meet a real demand. Probably at no other time nor in any other state has the movement towards popular education in matters pertaining to health attained such importance as in Michigan today. All credit to the Joint Committee on Health Education.

* * *

Systematic graduate medical education is in the offing. A number of clinics held jointly under auspices of the Department of Post-Graduate Medicine of the University of Michigan and the Michigan State Medical Society have been well attended and a number of the clinical papers have appeared in these pages. The annual meeting of the Society was a great success. The papers presented will be printed in the Journal beginning with this number.

The appointment of a scientific editor has given the secretary and former editor more leisure to devote to county society activities and through his long contact no one is better qualified to study the medical situation as it obtains in the constituent counties of the state. The department devoted to county news, we think, has been not only increased in volume, but in interest as well.

WHITHER INDUSTRIAL MEDICINE, SO-CALLED?

A comparatively recent number of the Journal of the American Medical Association contained a paper which dealt with the subject of providing complete medical service not only for the individual worker, but likewise for his family. The substance of this paper, as abstracted from the article in question, appears in the editorial section of the Journal of the M. S. M. S., so that those who may not have read the article in full, may obtain a pretty clear idea of the particular kind of service advocated by the author. This being one of the papers presented at the Section on Preventive and Industrial Medicine and Pub-

lic Health at the last annual meeting at Minneapolis, the subject was quite thoroughly discussed. The tenor of the discussion by section members was as follows: "There are very few industries," says one, "that take over the full medical care of even their employes, and fewer yet which take the families, unless it be on some sort of insurance basis where the workers themselves furnish the financial support of it." And then he goes on to say, "It would be very interesting to know what obstructions are encountered when one includes the whole medical care of the individual worker and of his family as well. . . . It has always seemed to me that it is not desirable for an industry to take over the medical care of employes' families. I would go even farther and say that, so far as my opinion has yet been formulated, it is not desirable even to take over the full medical care of the employe himself, except on some basis whereby the employe pays at least a part of the cost."

* * *

Another speaker expressed himself: "We are trying to do too much in industrial work. There is only one place where this form of industrial practice is justified, and that is in an isolated mining camp or an isolated lumber camp, where it is impossible to get any other medical care, but in a city where there are other physicians, we have to consider them. Where did the \$789,000 go? Certainly not to the local physician? We must consider the local physician always."

A third speaker commented as follows: "We can go too far in public health work, and in industrial medicine. The medical profession is trained to take care of the sick. It is the duty of public health authorities to prevent sickness among the group, and, when it occurs, to refer the individual to the medical profession. It is not any part of public health activities to treat the sick. The whole object is to prevent illness and to control the spread of disease among the group. That should be an axiom and it should not be violated by public health authorities. Pauperizing of whole communities of American citizens is bad. Every man ought to be stimulated to take care of himself."

The fourth speaker went into the financial phase of the subject. "An intelligent consideration of the scheme is impossible without a knowledge of the terms on which the medical and nursing staffs are employed, the wages paid, the duration of employment, and retirement privileges. It

requires, too, a knowledge of the wages paid to the working persons in the establishment as compared with the wages paid in similar establishments similarly situated in the same community at the same time. It will contribute toward a clearer understanding if we know whether food, fuel and clothing have been bought in bulk by the employer and issued to the employes without cost in order to conserve their health and to enable them to live more happily and do more efficient work; and if not, then why such necessities of life are withheld while medical service is furnished."

* * *

The chairman of the section made very pertinent comment when he raised the question of whether the worker is getting all the wages that he is entitled to under a system of medical care such as Dr. O'Neil, the author of the paper, had outlined. And then he went on to say, "I do not think that there is the slightest danger of pauperization through Dr. O'Neil's services when the average wage is only a little more than \$1,400 among 15,000 employes. The question is, are they getting an adequate wage? Are they not paying too much for medical service, or are they getting a higher grade of medical service that supplements their wages considerably?"

* * *

Yes, the question lies just there. When industry indulges in paternalism to the extent of not only taking care of injuries received by their employes while at work, which is demanded by the workingman's compensation laws (which we approve), but also looking after the medical care of the workingman and his family (which we do not approve) the question is raised, if the act is not looked upon as partial remuneration for wages the workingman should, but does not receive.

It has been estimated that the average income of all persons "gainfully employed" in 1926 was \$2,210 a year. The same year nearly 10,000 paid taxes on incomes of from \$100,000 to \$1,000,000 a year each; two hundred and twenty-eight, on incomes over \$1,000,000 each, and fourteen on incomes of over \$5,000,000, all of which makes us wonder if the mass of the people who help produce these gigantic incomes are really receiving all they are entitled to. When industries indulge in the practice of medicine, is it a matter of unalloyed altruism, or is it a sort of self-imposed fine for a wage that is insufficient to meet the exigencies of life?

INDUSTRY AND NERVOUS DISEASES

According to studies made by Culpin of the London Hospital, nervousness or nervous diseases are a frequent cause of absence in industry. Seven of the first twelve cases on the annual sickness records of one large firm showed losses ranging from 94 to 278 days because of nervous diseases. These latter were listed as nervous breakdown, nervous exhaustion, dyspepsia and nervous debility, heart and nervous overstrain. In this particular firm, the workers were reasonably well paid, working conditions were hygienic and the workers were not driven at their work. In firms where the conditions are less pleasant and the work is strenuous, the absence rate for diseases of this type is lower.

Culpin compares this type of nervousness to that which appeared as shell shock during the war, in as much as its basis is emotional, not physical, although the physical symptoms were very real to the patient. The worker's attitude towards his work was found to play a large part in determining absence due to nervous trouble. Among many workers examined, those who liked their work had very few absences due to their nervousness, even though they showed on examination the same kind and degree of nervous disease as workers with many absences who disliked their work. Some wise person has said that men are tormented by the opinion they have of things rather than by the things themselves. In other words, the comfort one gets out of his work depends largely on his mental attitude towards it, and this in turn depends upon proper adjustment. We are living in an age when men are compelled to regulate their lives to the tempo of machines. We are afraid that this very fact will rob industry of the interest that erstwhile was part of the artistry of craftsmanship.

THE INFERIORITY COMPLEX

There are many overworked terms which have become current phrases in the language. Freud, whatever may be said about the Freudian theory, has coined some convenient expressions, such as the oedipus complex. The inferiority complex, as a verbal expression, was first used by Dr. Alfred Adler, who drew attention to this peculiar mental syndrome and traced its origin. To say that a man has an "inferiority complex" means no more than to say that he feels himself inadequate to meet the problems of life. It is approxi-

imating the truth to say that even ordinary people are afflicted with it, if we may use the term afflicted, for who does not at times feel unequal to the task with which he is confronted? It is quite a normal feeling to feel out-done by others, or to regret that our activities fall short of perfection. If the result is to stimulate to greater effort, we may look upon our reaction as one of divine discontent.

The term "inferiority complex" is mostly used to describe those emotional responses that may prove a real menace or insurmountable obstacle to one's peace of mind. Sometimes the condition takes on a peculiar form. Instead of an attitude of excessive humility, we may have undue conceit in which the subject endeavors to impress those around him with his importance. Behind a screen of arrogance and self-assertion one can often perceive a weak and tremulous soul lamenting its own inadequacy. We have heard of the boy who, going through a graveyard at night, whistled to keep his courage up.

The causes of this peculiar mental condition are many; sometimes fear obsessions; often suppressions during childhood. This may seem the problem of the psychiatrist. In its milder forms, however, it is a matter that should concern all physicians, if not all parents. Most of these conditions in their inception are due to absence of parental wisdom. The scientific study of the human constitution is as yet in its infancy.

Who has not seen the type graphically described by a writer in the London Spectator as follows: "The fear of defeat shows itself in two ways. The first is the development of an aggressive character. The aggressive man is perpetually guarding against encroachment on his personality, or perpetually trying to get his blow in first: he looks on life as a struggle in which he always runs the risk of being worsted, and needs a host of small triumphs to assure him of his worth. In all his human contacts he tries to show himself 'master of the situation.' Such a man is vain and ambitious; his ambitions, however, are not directed towards accomplishment, but towards recognition. He tries to win a favorable place by means of anger. He is capable of spasmodic effort, but slow continuous work without immediate effect soon tires him and makes him feel desperate. In his childhood such a man was obstinate and defiant. He can only draw attention to his existence by being irreconcilable or by adopting the at-

titude of the bully among his fellow-children."

INFLUENZA

The week ending December 1st, 15,000 cases of influenza were reported to the United States Public Health Service by the various state health officers of the United States. This was approximately double the number of the preceding week. Evidently an epidemic of this disease is eminent. Knowledge of influenza is still very much limited in spite of the fact that in 1918 a commission was appointed to study it. Apparently all the resources of modern science, which have been found so effective with other diseases, have failed in influenza. At the time of writing, a great many of the reported cases have been of the ambulant variety of comparatively short duration. So far the death rate in the present epidemic is said to be low. While epidemic influenza may occur at all times of the year, it is unusual for it to start so early in the winter.

While our knowledge of the disease itself is very limited, experience has taught us effective methods of control, namely by avoiding contact with influenza patients and also the avoidance of crowds. Simple nourishing food, plenty of fresh air and sunshine, as well as rest and sleep put one in the best position to guard against this, as well as other infections.

According to Science Service, most epidemics follow closely along lines of travel. Influenza outbreaks, especially during great epidemics, occur simultaneously in widely separated spots, thus making it impossible to predict exactly where they will strike next. However, cities and towns on the direct line of through transportation by rail, motor, water or air from any of the present epidemic centers may expect an outbreak soon, regardless of the actual distance in miles. It is time distance and not space distance that counts in influenza. The motor tourist and the student returning home for holidays, are sources of danger. If the epidemic follows its present course consistently, Texas, Louisiana and Arkansas may be hit next, when the lines from California and from the south-east meet. The middle west, particularly the railroad centers, is also in danger. Public health regulation in all localities will be needed according to local conditions.

EDITORIAL NOTES

American spelling differs in some respects from the English spelling chiefly in the matter of shortening words by the omission of a superfluous "e" or "u". Occasionally we carry the syncopation process too far. We sometimes obscure the meaning of such words, for instance, as paediatrics, and orthopaedics, by dropping the "a". The American spelling pediatrics would mean the science and art of treating "feet" instead of children. Compare pes, pedis, foot and pais, paidos, Greek for child, the "ai" Greek diphthong becomes "ae" in the English derivatives. Similarly, orthopaedics is the science and art of correcting deformities in children, and not straightening feet, as our Americanized form would indicate.

Whenever, as American citizens, we tend towards a feeling of superiority, something is sure to happen to make us humble. It is hardly the proper thing to assume an exalted attitude with such states as Arkansas and one or two others passing laws which, if carried into effect, would tend to throttle effort towards enlightenment and to return to the spirit of the dark ages. Even Arkansas has its saving remnant, however, in the person of the Dean of the University medical school, who claimed that to leave out the teaching of evolution in the school would wreck it and that, therefore, the faculty would continue regardless of the law. The presence of such foolish attempts at legislation tends to destroy respect for all law.

IRON BY HYPO MEETS DISFAVOR

(Northwest Medicine)

Six years ago in an editorial in Northwest Medicine the subcutaneous use of iron was decried, because iron acts more effectively when given by mouth in food and because many pale people to whom it is given are not anemic at all when tested for hemoglobin. In closing we said: "The routine treatment of pale people by hypodermatic injections of iron is a modern instance of 'brass' acting on iron to produce gold—a veritable alchemy." * * * Since the appearance of our first editorial Dr. Christian, at a meeting in Spokane, was asked what he thought of the use of iron subcutaneously. He replied that he had never considered it desirable and ended by saying it was a form of bunk. As recently as last June an editorial in the Journal of the American Medical Association stated that "The administration of iron subcutaneously or intravenously is rarely necessary or desirable. Iron is normally found in the food and minute amounts only are required."

THE DOCTOR AND THE TOP CROP

(Texas State Journal of Medicine)

Some years ago there was a saying in the south that the doctor gets the top crop, meaning that after everybody else has been paid, if there is anything left it goes to the doctor. To those who are not familiar with cotton and cotton raising, let us explain that it generally happens that a certain amount of cotton opens after the principal crop has been gathered. That is the top crop. Sometimes it amounts to a good deal and sometimes not much, and in certain years the early approach of the winter season knocks the top crop out entirely. Having practiced medicine in a section of the state which depended to a large extent on the success of farming interests, we are in a position to appreciate the simile, if we may call it that. Perhaps conditions have changed of late. We hope so. We think it is true that the claim of the doctor for the laborer's hire is receiving more attention now than ever before, and doubtless he is forcing his collections better than he was wont to do in years gone by.

THE WAR ON OPIUM

(The New England Journal of Medicine)

The Geneva Convention having been ratified, more results in the war on opium may be expected, according to Mr. John P. Gavit, in Survey. The convention provides for the setting up of a "Central Board" of eight persons, appointed by the Council of the League, whose function it will be to keep watch of the international traffic in narcotics and to notify the governments when it is illicit. Mr. Gavit, however, is not optimistic as to the character of the board which is likely to be appointed at the start, for the assembly has little enthusiasm for the new organization, and the opposition to the expense may prevent adequate salaries. If, however, the board is such as to command respect, he believes that it will gather to itself in any country a body of informed public opinion which will give it added power.

A GREAT TEACHER, OLIVER WENDELL HOLMES

(New York Medical Journal and Record)

Speaking of the deltoid muscle, Dr. Holmes would say: "Now gentlemen, we are about to consider the anatomy of the deltoid—that powerful muscle which comes down on the shoulder like a constable's fist." He called attention to "beautiful plates of Albinus" and, in describing them, never omitted to mention the lovely figure of a nude woman "with a smile on her face and an ovary in each hand, as if she were saying, like the mother of the Gracchi, 'and these are my jewels!'" He compared the fimbriated ends of the Fallopian tubes to the bedraggled ends of a poor woman's shawl. Holding aloft the female pelvis, he would remark, "Gentlemen, this is the arch under which every youthful candidate for immortality has to pass." Of the tuberosities of the ischium he said, "These, gentlemen, are the projections on which man was designed to sit and survey the works of creation."

When he dropped his eye glasses into an abdominal cavity one day a student laughed. "Well, I wish you had to use glasses," the professor exclaimed, but instantly realizing that this was unkindly, he quickly added, "Of course, I mean that I hope you will live long enough to need them." In demonstrating the pectoralis minor he mentioned that it was less fibrous and more tender than the pectoralis major and added, "And don't forget, gentlemen,—next time you are carving a turkey—to remember this fact and to reserve

the pectoralis minor for your favorite girl."

He compared the sweat gland with its coil to the intestine of a fairy; the mesentery he likened to shirt ruffles of a preceding generation, "which form a short line of attachment expanded into yards of complicated folds."

On the subject of inheritance he aptly remarked that, "Every man is an omnibus in which all of his ancestors are seated."

Dr. Monks gives many quotations from Holme's poems and from his addresses on medical practice. We borrow here some remarks on methods of dealing with patients.

"No matter how hard he stares at your countenance, he should never be able to read his fate in it. It should be cheerful as long there is hope, and serene in its gravity when nothing is left but resignation. The face of a physician, like that of a diplomatist, should be impenetrable. Nature is a benèvolent old hypocrite; she cheats the sick and the dying with illusions better than anodynes. If there are cogent reasons why a patient should be undecieved, do it deliberately and advisedly, but do not betray your apprehensions through your telltale features."

"We had a physician in this city whose smile was commonly reckoned as being worth five thousand dollars a year to him, in the days, too, of moderate incomes."

"Your patient has no more right to all the truth you know than he has to all the medicine in your saddlebag, if you carry that kind of cartridge box for the ammunition that always slays disease. He should get only so much as is good for him. I have seen a physician examining a patient's chest stop all at once, as he brought out a particular sound with a tap on the collarbone, in the attitude of a pointer who has just come on the scent or sight of a woodcock."

"What I call a good patient is one who, having found a good physician, sticks to him till he dies. But there are many very very good people who are not what I call good patients. I was once requested to call on a lady suffering from nervous and other symptoms. It came out in a preliminary conversational skirmish, half medical, half social, that I was the twenty-sixth member of the faculty into whose arms, professionally speaking, she had successively thrown herself. Not being a believer in such rapid rotation of scientific crops, I gently deposited the burden, commending it to the care of number twenty-seven, and him, whoever it might be, to the care of Heaven."

PLAN OF MEDICAL SERVICE FOR INDUSTRIAL WORKER AND HIS FAMILY*

The plan offered by Daniel C. O'Neil, Binghamton, N. Y. (Journal A. M. A., November 17, 1928), has been in operation for twelve years and has proved practical. It is an active working plan developed by the Endicott-Johnson Corporation, which employs 15,000 workers in shoe factories and tanneries. The average annual wage of these workers is \$1,441. In 1916, one full-time physician was employed. Today there are twenty-eight full-time physicians, three full-time dentists, one half-time dentist, five dental hygienists, sixty-seven full-time trained nurses, four pharmacists, two bacteriologists two laboratory technicians, two physical therapeutists, one roentgenologist, six motor ambulances, sixteen clerks and twenty other helpers, as cooks, maids and janitors. In addition to these, when occasion requires, the services of other physicians, specialists, nurses and hospitals are procured. Medical care is offered to all the

* Note Editorial reference to the paper of which this is an abstract.

workers and their dependents. Estimating that each worker has three dependents, the potential number included in this plan is 60,000. No direct charge is made for the service and there is no wage deduction. The entire expense is borne by the company. Increased individual production, and profits as the result of this plan, cover the cost. A medical center furnishes twenty-four hour service, including all drugs and supplies. A maternity hospital is also a part of the plan. Prenatal care is offered, and more than 1,000 women are delivered each year. The mothers remain in the hospital about two weeks and return at frequent intervals with their babies to a well baby clinic. Preventive medicine is offered in correct feeding, formation of health habits and the use of preventive vaccines and serums. The company maintains a rest home in the country for debilitated girls and women and a sanatorium for the treatment of tuberculosis. Every worker seeking employment receives a complete physical examination. If no serious defects are found, he is given six months' trial at suitable work. He is then re-examined and, if satisfactory, is permitted to join a sick relief association which entitles him to a weekly benefit of \$10.50. Membership is not compulsory but about 12,000 workers are members. Last year they received \$132,000, of which they paid \$118,000 in premiums of 20 cents a week. This is the only insurance feature of the plan. Industrial accidents are cared for by staff physicians, as the company is self-insured under the law of the state of New York. One hundred thousand dollars is on deposit with the state to guarantee payment of accident claims. Injuries are kept at a minimum by practical instructions in regard to industrial hazards and by careful supervision of machinery, plants and working conditions. There are no characteristic industrial hazards in this industry. Other activities associated with this plan are retirement pension, widow's pension, and the furnishing of food, fuel, rent, clothing, domestic help and funeral expenses when required. The cost of medical service for these 15,000 workers was \$789,000 or \$52.60 per capita. At the rate of 2.5 cents for each of the 32,000,000 pairs of shoes manufactured by these workers, the cost of their medical service can be covered.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Our sympathy goes out to Dr. Geo. L. LeFevre of Muskegon by reason of the death of his wife.

"Some Recent Work on Fractures" was the title of a paper presented by Dr. John R. Davis of Toledo, Ohio, before the Washtenaw County Medical Society at the annual meeting on December 20th. The address was well illustrated by lantern slides.

J. Van Becelaere, M. D., LL.B. at one time resident of Detroit and member of the Michigan State Medical Society, has been living for several years in San Diego, California. He is associate editor of the Western Medical Times.

"The Bugg News" is published by the staff of the Oakland County Sanitarium. It is edited by

Miss A. M. Hall. It is brim full of happy philosophy as many physicians who know the editor would naturally expect. Everything in the little paper is worth reading.

The Upper Peninsula Medical Society will hold its annual convention in Ironwood in August, 1929, it was announced at the regular monthly meeting of the Gogebic County Medical Society held November 9. Dr. R. I. C. Prout of Wakefield read a paper on "Acidosis and Alkalosis." Dr. A. J. O'Brien made a report on the Boston meeting of the American College of Surgeons. Dr. H. F. Ringo and Dr. D. C. Pierpont reported on the Atlanta meeting of the Interstate Postgraduate Medical Association of North America. A resolution was passed expressing sympathy for Dr. and Mrs. W. C. Reineking concerning injuries sustained in an automobile accident which occurred on their way to the tuberculosis convention at Lansing. Dr. Reineking is the secretary of the society. The annual meeting will be held in December. Officers will be elected and a banquet will be held.

Dr. Frank McKenzie and Dr. Harry Kirshbaum of Detroit, read papers before the Clare County Medical Society, Port Huron on December 6, 1928.

DEATHS

Dr. C. M. Williams of Alpena, Michigan died very suddenly on December 11th, 1928, apparently of heart disease. He had several attacks recently but was not incapacitated from work. Dr. Williams was born on a farm near Flint in 1874. After a course in the Flint High School he went to Albion College for two years and then to the University of Michigan where he graduated in medicine in 1901. He located in Alpena in the same year where he had practiced until his untimely death. Dr. Williams served in both the Spanish-American war and the World War. He was twice decorated for bravery during the World War. The citation reads, "Capt. C. M. Williams, Medical Corps, Infantry. For exceptional heroism in action on the Ourcq river July 31, and August 1, 1918; northwest of Coulonges, France, August 2, 1918, and on the heights overlooking the Vesle river August 3, to 7, 1918. During these three periods of severe fighting Capt. Williams maintained a dressing station close to the advance lines and worked continuously night and day under heavy artillery and machine gun fire." Later he was promoted to the rank of major and decorated with the French croix de guerre for bravery in action.

Dr. Williams was a true citizen of his own town, being identified in a constructive way with its many interests. He was an active member of the Methodist-Episcopal church, Hopper Lodge, No. 386, F. & A. M., Alpena Chapter Eastern Star, Alpena Commandery No. 34, Knights Templar, Alpen Exchange Club, William F. Weine Post No. 64, American Legion, Arthur Henry Post of Spanish-American War Veterans and the Alpena County Medical Society. Dr. Williams was an active and valued member of the Michigan State Medical Society. He is survived by his widow, a son John Williams, a student at Ferris Institute, Big Rapids; a daughter, Jane Williams; one sister, Mrs. W. H. Lighthall of Royal Oak, and three brothers, W. E. Williams of Alpena, J. I. Williams of Flint and C. B. Williams of Calexico, California.

HARVEY AND HIS WORK

By the EDITOR

(Continued from the December Number)

William Harvey was born in Folkstone, England, April 1, 1578. Very little is known of his early life. His preliminary education was obtained at his native town, where he made his first acquaintance with Latin. He proceeded to the King's School, Cambridge, where he remained five years, and afterward, at 16 years of age, entered Caius College, Cambridge, in 1593. Harvey even early in his school life possessed habits of minute observation. His fondness for dissections and his love for comparative anatomy had shown his mental bias from his earliest years. To Caius, the founder of the college at Cambridge, is accredited the introduction into England of the study of practical anatomy. He obtained for his college a charter which allowed the authorities of the institution to take annually the bodies of two criminals condemned to death and executed at Cambridge, free of all charges, for the purposes of dissection, with the view to increase the knowledge of medicine and to benefit the health of her majesty's lieges, without interference on the part of any of her officers. To what extent the college availed itself of the privilege is not known. In all probability Harvey pursued the course of study which consisted of a sound knowledge of Greek and Latin ordinarily followed until he obtained his B. A. degree in 1597. A year after graduation, at the age of twenty, we find him traveling on the continent where he studied the scientific branches tributary to medicine, as well as medicine itself. As has been said, the universities of northern Italy were the first to welcome the new learning as it emanated from the east in the minds of Greek scholars, as well as rescued manuscripts. The universities of northern Italy, namely, Bologna, Padua, Pisa and Pavia, were at the time at the height of their renown as centers of mathematics, law and medicine. Harvey studied more particularly at Padua, renowned for its anatomical school, and rendered famous by the work of such men as Vesalius, the first of modern anatomists, and his successor, Fabricius.

It is interesting to recall that each entry in the university (Padua) register was accompanied by a note describing some physical peculiarity of the student, as a means of his identification. Thus Johannes Cookaeus, *Anglus cum cicatrice in articulo medii digiti die dicta*. John Cook, an Englishman, with a scar over the joint of his middle finger, (Matriculated) on the same day, and so on. Harvey evidently did not enter Padua University as a regular matriculant, as no such record occurs on the university register regarding him.

FABRICIUS AND HARVEY FRIENDS

The fame of some of its medical teachers undoubtedly attracted Harvey to Padua. While there he was instructed in anatomy and physiology by Fabricius, one of the most learned scholars of Italy. The fame as anatomist and surgeon of Fabricius ab Aquapendente (from the name of his birthplace) had spread well over Europe. During Harvey's sojourn in Padua he and Fabricius became fast friends. At that particular time Fabricius was engaged in perfecting his knowledge of the valves of the veins. His idea was that these valves prevented over-distension of the vessels when the blood passed from the large to the smaller veins, while they were not required in the

arteries because the blood was always in a state of ebb and flow. Harvey, however, pointed out their true importance as anatomical proof of the circulation of the blood. It was not so much what Harvey learned from Fabricius, as the stimulus of his friendship that proved of such great assistance to him, for we can see even in the instance quoted his view of the purpose of the valves of the veins was entirely incorrect.

In 1602, Harvey was graduated M. D. from Padua. His diploma conferred upon him the degree of Doctor of Physic, with leave to practice and teach arts and medicine in every land and seat of learning. It further stated, that "he had conducted himself so wonderfully well in the examination and had shown such skill, memory and learning that he had far surpassed even the greatest hopes which his examiners had formed of him. They decided, therefore that he was skillful, expert and most efficiently qualified both in arts and medicine, and to this they put their hands unanimously, willingly and with complete agreement and unhesitatingly." The University of Cambridge conferred the degree of M. D. on him the same year.

Harvey married in 1604, the daughter of Dr. Browne, who was physician to Queen Elizabeth and to James I.

ANATOMICAL TEACHING PREVIOUS TO 1745

During Harvey's day and until 1745, the teaching of anatomy in England was vested in a few corporate bodies. Private teaching was discouraged by fine and imprisonment. The College of Physicians and Barber Surgeons had a monopoly in London. The value of anatomy as a foundation to medicine was fully recognized at the time. The subjects for dissection were the bodies of executed criminals. Those were the times of public executions, witnessed by immense crowds whose opposition and sympathy for the felon and his friends often interfered with the procuring of the body for dissection.

The method of anatomical instruction is of interest. The subject was taught practically by a series of demonstrations on the body. The absence of means of preservation of cadavers precluded instruction in detail. A single body was dissected to show the muscles; another to demonstrate the bones, and a third to exhibit the viscera. Attendance on anatomical lectures and demonstrations was compulsory; violation meant the forfeiture of a fine. Some were exempted from the penalty, as one entry shows that a Robert Mud-sley "has licence to be absent from all lectures without payment of any fine, because he has given over the art of surgery, and doth occupy only a silk shop and shave."

The anatomical demonstrations were open to the public. The following note appears in Pepy's Diary: "Up and to my office.... Commissioner Pett and I walked to Chyrurgeon's Hall (we being all invited thither, and promised to dine there), where we were led into the theater; and by and by comes the reader, Dr. Tearne, with the master and company in a very handsome manner; and all being settled, he began his lecture, this being the second upon the ureters and kidneys, which was very fine; and his discourse being ended, we walked into the hall, and there being a great store of company, we had a fine dinner and good learned company, many doctors of physique, and we used with extraordinary great respect... After dinner Dr. Scarborough took some of his friends, and I went along with them to see the body alone, which we did, which was a lusty fellow, a seaman that was hanged for a

NOTE: The remainder of this paper is an abridgement, with some changes, of the chapter on Harvey in the Author's Pathfinders of Physiology.

robbery. I did touch the dead body with my bare hand; it felt cold, but methought it was a very unpleasant sight... Thence we went into a private room where I perceive they prepare the bodies, and there were the kidneys and ureters, etc., upon which he read today, and the doctor, upon my desire and the company's did show very clearly the manner of the disease of the stone and the cutting and all other questions that I could think of." Pepy's interest in the operation of cutting for stone is said to be due to the fact that he had undergone the ordeal himself. The Dr. Scarborough mentioned in Pepy's note was a friend and pupil of Harvey.

PERSONAL CHARACTERISTICS

Harvey is described as a man of the "lowest stature, round faced, with a complexion like the wainscot; his eyes small, round very black and full of spirit, his hair black as a raven and curling; rapid in his utterance, chivalric even to gesture, and used when in discourse with anyone to play unconsciously with the small dagger he wore by his side." His individuality was marked, as was evidenced by the strong impression he made upon those with whom he came in contact. His intellectual power and independence of character were unusual. His interests were wider than his scientific studies. According to an anonymous biographer* of the eighteenth century, "He was well read in ancient and modern history; and when he was wearied with too close attention to the study of nature, he would relax his mind by discoursing to his friends on political subjects and the state of public affairs. He took great pleasure in reading from the ancient poets, and especially Virgil, with whose work he was exceedingly delighted. He was laboriously studious, regular and virtuous in his life and had a strong sense of religion. In his familiar conversation there was a mixture of gravity and cheerfulness; he expressed himself with great perspicuity, and with much grace and dignity; and was eminent for his great candor and moderation. He never endeavored to detract from the merit of other men; but appeared always to think that the virtues of others were to be imitated and not envied."

In spite of his choleric and hasty disposition he had the faculty of making close friendships. His replies to his critics showed great moderation. Harvey's true character is probably best seen in that period of his life which was beset with opposition and reproach, immediately following the publication of his great work on the circulation. To his traducers his attitude resembled that of the divine Master. "To return evil speaking with evil speaking I hold to be unworthy of a philosopher and searcher after truth. I believe I shall do better and more advisedly if I meet so many indications of ill-breeding with the light of faithful and conclusive observation."

A MAN OF BROAD VIEWS

Harvey was not a religious man in the narrow sense of the term despite the fact that he lived in an age of warring creeds. His views were broad as befitted a student of the design and workmanship of the Great Architect of the universe. According to Sir Russell Reynolds, "a devout and reverential recognition of God" permeated his work, "not only as the great primal ever-acting force, defined outside and before all the works of nature; but as the Being, 'the Almighty and Eternal God' to whom he says in his last will and testament, 'I do most humbly render my soul

to Him who gave it; and to my blessed Lord and Saviour Jesus Christ.'"

Harvey's knowledge of Latin was so thorough that he could converse with facility equal to his native tongue. He was accustomed to employ both English and Latin even in the same sentence, for example, speaking of the eyes and their function: "Oculi eodem loco, viz, nobilissimi supra et ante ad processus eminentes instar capitis in a lobster snayles cornubus tactu pro visu utuntur unde oculi as a centinell to the army locis editis anterioribus."

HARVEY AS LECTURER

Harvey, excelled as lecturer. His lectures showed an intimate acquaintance with the anatomical structure of more than sixty kinds of animals, as well as a thorough knowledge of human anatomy, which must have taken years of study to acquire. He was elected fellow of the College of Physicians in 1607. An important position which Harvey held was physician to St. Bartholomew's hospital in 1609. "The charge of the physician of St. Bartholomew's hospital" required the incumbent to devote at least one day a week throughout the year to charity. He was further enjoined, "not for favour, lucre, or gain, to appoint or write anything for the poor but such good and wholesome things as he shall think with his best advice will do the poor good, without any affection or respect to be had to the apothecary. And he shall take no gift or reward of any of the poor of this house for his counsel." This "charge" Harvey is said to have faithfully observed.

His lectures were partly read and partly oral. The cadaver lay on the table with the dissecting instruments close to it. An assistant dissected or demonstrated while the lecturer read his remarks. The anatomical lecturer of the sixteenth century was a person of importance. The greatest consideration was exercised for his comfort. The stewards were instructed, "to see and to provide that there be a mat about the hearth in the hall that the doctor be made not to take cold upon his feet * * *. And further, that there be two fine white rods appointed for the doctor to touch the body where it shall please him; and a wax candle to look into the body, and that there be always for the doctor two aprons to be from the shoulder downward and two pair of sleeves for his whole arm... and not to occupy one apron and one pair of sleeves every day, which is unseemly." Harvey laid down the following precepts for his own guidance as lecture precepts which the modern anatomical lecturer might observe with propriety:

- (1) To show as much as may be at a glance, the whole belly for instance, and afterwards to subdivide the parts according to their position and relations.
- (2) To point out what is peculiar to the actual body being dissected.
- (3) To supply only by speech what cannot be shown on your own credit and authority.
- (4) To cut up as much as may be in the sight of the audience.
- (5) To enforce the right opinion by remarks down from far and near and to illustrate more by the structure of animals according to the Socratic rule.
- (6) Not to praise or dispraise other anatomists, for all did well and there was some excuse even for those who are in error.
- (7) Not to dispute with others.
- (8) To state things briefly and plainly.

* British Biographies, Vol. IV., London, 1768.

(9) Not to speak of anything which can be explained without the body or can be read at home.

Here we have a combination of orthodox medical ethics and sound pedagogy. Harvey's particular role as Lumlian lecturer included the position of lecturer upon the viscera. Discussing the thoracic viscera he enunciated the remarkable discovery with which his name is inseparably associated, initialing the notes to indicate that the ideas were peculiarly his own.

constat per fabricam cordis sanguinem.
per pulmones in Aortam perpetuo.
Transferri, as by two clacks of a
water bellows to rayse water.
constat per ligaturam transitum sanguinis
ab arteriis ad venas
unde perpetuum sanguinis motum
in circulo fieri pulsu cordis.

W. H.

"It is plain from the structure of the heart that the blood is passed continuously through the lungs to the aorta as by the two clacks of a water bellows to raise water.

"It is shown by the application of a ligature that the passage of the blood is from the arteries into the veins.

"Whence it follows that the movement of the blood is constantly in a circle and is brought about by the beat of the heart." It was not until twelve years after this important announcement that he proclaimed it to a wider audience.

Harvey's literary style was somewhat figurative. He loved to indulge in metaphors—witness: An cerebrum rex, whether the brain is king.

Nervi majistratus, the nerves his ministers.

Musculi cives populus, the muscles, the citizens or the people.

He also draws a similitude liking the brain to a military commander, the leader of an orchestra, an architect, and he speaks of the muscles and nerves as subordinate officers.

Year by year Harvey delivered the Lumlian lectures to the College of Physicians. His private practice grew so as to be fairly lucrative.

HARVEY'S OPINION OF FRANCIS BACON

In 1618 he was appointed physician to James I. In 1631 he was appointed physician in ordinary to King James' son, Charles I. Not only gained he an entrance to the household of the king but he was employed in the homes of the most distinguished nobles. Among others he attended Sir Francis Bacon, who was always a weak and ailing man with a disposition to be hypochondriac. "In William Harvey and Francis Bacon," says Gorton, "may be observed two men like planets in conjunction; born in the same generation, each illustrious in the annals of history, the one in philosophy, the other in science but in striking contrast to each other. The one was a thinker, the other was an actor; one conceived methods, the other put methods into operation; one was an academic philosopher, the other a man of science and discovery; one immortalized himself by his profundity of thought, the other by his contribution to science. Both were stars in the firmament of great men, but long after one has become dim or gone out, the other will continue to shine with splendor."

Though honored by England's Lord Chancellor as the custodian of his health, Harvey evidently failed to be impressed with Bacon's greatness even as philosopher, for speaking of him, Harvey refers to him as "writing philosophy like a Lord Chancellor."

PUBLICATION OF HIS WORK ON THE CIRCULATION

In 1628, the crowning event of his life took place when he published his well considered and matured account of the circulation of the blood. He had demonstrated his ideas of the circulation for twelve years before publishing them, which event occurred in the fiftieth year of his life. This monumental work of the great physiologist was accomplished while yet in his thirties. Why Harvey should allow so much time to elapse between the event of his epochal discovery and its publication is not clear. Evidently the passion to rush into print was not so great as it is with the investigator of today. It is interesting to note, however, that among the greatest thinkers and investigators Harvey is not unique in this respect. Copernicus is said to have detained his "Treatise of Revolutions" thirty years before permitting its publication; Bacon kept his *Novum Organum* by him for twelve years; Isaac Newton "brooded in silence over the motion of the spheres" for more than twenty years before publishing his *Principia*; between the first draft and the publication of the *Origin of the Species* seventeen years were permitted to intervene. Perhaps it was Harvey's reluctance toward "quitting the peaceful haven," that constrained him for so long a time, for elsewhere he tells us that his practice fell off or, to use his own words, he "fell mighty in practice." Regarding him a contemporary wrote, "though all of his profession would allow him to be an excellent anatomist, I never heard of any who admired his therapeutic way. I knew several practitioners in this town that would not have given three pence for his bills (prescriptions) as a man can hardly tell by his bills what he did aim at."

PERSECUTED BY HIS COLLEAGUES

Harvey is said to have been the first to be persecuted by the medical profession for making discoveries at variance with the drift of public thought and opinion. Whatever may be said of the twentieth century the scientific world can be accused no longer of tardiness in the acceptance of new truth, but it reserves the right to "prove all things and to hold fast to that which is good." While Harvey's practice may have fallen off, his discovery did not by any means consign him to obscurity. He still found favor with King Charles I, whose personal physician he was. His constant attendance at court greatly interfered with his duties at St. Bartholomew's hospital and resulted in the appointment of an assistant, but with no diminution in his stipend. A contemporary of Harvey states as follows: "I have heard him say that after his *Booke of Circulation of the Blood* came out he fell mightily in practice, and 'twas believed by the vulgar that he was crack-brained, and all the physicians were against him, with much ado at last in about twenty or thirty years' time it was received in all the universities of the world, and as Dr. Hobbs says in his book 'De Corpore,' he is the only man perhaps that ever lived to see his own doctrine established in his lifetime."

TREATISE ON THE CIRCULATION

Harvey's greatest work was undoubtedly his *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus*, an anatomical treatise on the movement of the heart and blood in animals, published in Frankfurt, Germany, in 1628. The book was a small quarto volume of 72 pages. It opens with a dedication to "The Most Illustrious and Indomitable Prince, Charles, King of Great Britain, France, and Ireland, Defender of the Faith,"

etc. The dedication proceeds: "The heart of animals is the foundation of their life the sovereign of everything within them, the sun of their microcosm, that upon which all growth depends, from which all power proceeds. The king in like manner, is the foundation of his kingdom, the sun of the world around him, the heart of the republic, the fountain whence all power, all grace doth flow." Whatever may be said regarding Charles I, who was the victim of public execution, he certainly befriended Harvey. Then to the president of the Royal College of Physicians and to other learned physicians the author addresses himself in a dedication which he concludes: * * * "I profess both to learn and to teach anatomy not from books but from dissections; not from the positions of philosophers but from the fabric of nature. * * * I avow myself the partisan of truth alone; and I can indeed say that I have used all my endeavors, bestowed all my pains on an attempt to produce something that should be agreeable to the good, profitable to the learned, and useful to letters." Harvey's method here enunciated is the method of every scientist since his day, whose contribution has possessed real merit—that is, reasoning based upon experiment and observation.

The work on the circulation comprises seventeen short chapters. It is an interesting account, lucid and connected, of the heart's action and the circulation of the blood. Harvey had no means of knowing the connection between the smallest arteries and the smallest veins, for the microscope was not in such a stage of perfection as to permit of much fine work in minute anatomy. It was not until the invention of the compound microscope in 1675 that Leeuwenhoek described blood corpuscles and the capillary circulation. In the first chapter the author reviews some of the fantastic theories regarding the functioning of heart and lungs. The heart was held to be the great heat center of the body. The blood was sucked into it during diastole and expelled from it during systole. The arteries cooled the blood; the lungs fanned and cooled the heart. The term "spirits" meant a great deal to Harvey's predecessors but not to him. "The word blood has nothing of grandiloquence about it, for it signifies a substance which we have before our eyes and can touch; but before such titles as spirit and calidum innatum (inherent heat) we stand agape."

He finds it advantageous to study the movement of the heart in the cold-blooded animals—frogs, snakes and fishes. He ascertained that the heart was a muscular organ, that its systole was the result of muscular contraction. The contraction of the heart was more important than its dilatation. "During its contraction the heart becomes erect, hard and diminished in size, so that the ventricles become smaller and are so made more apt to expel their charge of blood. Indeed, if the ventricle be pierced the blood will be projected forcibly outward at each pulsation when the heart is tense." Harvey showed that the pulsation of the arteries depended upon the contraction of the left ventricle. The contraction of the right ventricle propelled the blood into the pulmonary arteries, the pulsations of which were simultaneous with the other arteries of the body. He demonstrated that the two ventricles contracted simultaneously and that the two auricles contracted at the same time.

MOTION, ACTION AND OFFICE OF THE HEART

In the fifth chapter Harvey deals with the motion and function of the heart. It reads somewhat like a modern work in physiology.

"First of all, the auricle contracts, and in the course of its contraction throws the blood (which it contains in ample quantity as the head of the veins, the storehouse, and cistern of the blood), into the ventricle, which, being filled the heart raises itself straightway, makes all its fibres tense, contracts the ventricles, and performs a beat, by which beat it immediately sends the blood supplied to it by the auricle into the arteries; the right ventricle sending its charge into the lungs by the vessel which is called *vena arteriosa* but which, in structure and function, and all things else, is an artery; the left ventricle sending its charge into the aorta, and through this by the arteries to the body at large. These two motions, one of the ventricles, another of the auricles, take place consecutively, but in such a manner that there is a kind of harmony or rhythm preserved between them, the two concurring in such wise that but one motion is apparent, especially in the warmer blooded animals, in which the movements in question are rapid."

CAPILLARY CIRCULATION

Since Harvey's time Malpighi, in 1661, hinted at the capillary circulation, which was still further investigated by Leuwenhoek in 1674, who studied it with his microscope in the web of a frog's foot and in other transparent membranes. In 1676, Blankaart, and in 1697 Cowper studied the arrangement of the capillaries by means of injected specimens. A long interval elapsed between the histological study of the circulation before chemistry was sufficiently advanced to afford definite knowledge in regard to oxidation of the blood and the explanation of the true function of the lungs. The work of Priestly in 1775 was a notable contribution to the physiology of respiration. The nineteenth century, through the work of Ludwig in Germany, Chauveau in France, and Foster in England, has seen the physics of the heart and circulation reduced almost to an exact science.

Any account of the works of Harvey would be incomplete were no mention made of his work in embryology. Harvey discussed the nature of development. He may be considered as having made the first independent advance in the subject. That he did not accomplish more was due to lack of instruments of precision, and to the fact that he had to build on the general level of the science of the time. His work on embryology was published in 1651. It was entitled "*Exercitationes de Generatione Animalium*." In it is an account of not only the development of the chick, but of deer and other mammals as well.

All honor to him who blazes the trail. The refinements, whatever they may be, can never merit for the investigator the honor which is due the pioneer. As was said by Haller, one of the best informed minds of the eighteenth century, "It is not to Caesalpinus, because of some words of doubtful meaning, but to Harvey, the able writer, the laborious contriver of so many experiments, the staid propounder of all the arguments available in his day, that the immortal glory of having discovered the circulation of the blood is to be assigned."

THE HARVEIAN LECTURE

One of his last acts was to set aside a certain sum derived from his estate for the delivery of an oration in commemoration of the benefactors of the College of Physicians. This oration, the Harveian Oration, is still delivered each year by some distinguished member of the medical pro-

fession. Even in his declining years his thoughts were turned to the future. The Harveian Lecture is intended to further the progress of science, especially a knowledge of the body in health and disease. "Much of the nobility of the profession," says Osler, Harveian lecturer, 1906, "depends upon the great cloud of witnesses' who pass into the silent land—pass and leave no sign, becoming as though they had never been born. And it was the pathos of this fate not less prophetic because common to all but the few, that wrung from the poet that sadly true comparison of the race of man to the race of the leaves." Harvey was one of the "few" to have achieved that immortality which places him with "The divine men of old time."

He died June 3rd, 1657, in the eightieth year of his age.

(Concluded)

COMMUNICATIONS

THE DOCTOR AND THE ADDICT

Editor Journal of the Michigan State Medical Society:

What should be done with the drug addict? The physician who has not been called upon to treat this sort of case cannot realize what a trouble they are. There should be some provision made in the way of a state hospital to which every one addicted to the use of narcotics should be sent and pay according to their means. Those who are found incurable should be given a certificate so that any doctor consulted might furnish the necessary drug without liability to arrest. Every physician who knows of a drug addict should report to some properly constituted authority. It seems impossible to cure these people at home. They are essentially hospital or institutional cases.

H. A. Bishop, M. D., Millington, Mich.

TREATMENT OF LOBAR PNEUMONIA WITH REFINED SPECIFIC ANTIBACTERIAL SERUM

The material reported on by William H. Park; Jesse G. M. Bullova and M. B. Rosenbloth, New York (Journal A. M. A.), was studied at Harlem Hospital where two years ago a separate pneumonia service was established. A resident physician and a staff of four bacteriologists and two chemists gave their full time to the investigations. This special staff and the large number of pneumonia patients made the conditions for evaluating the serum ideal. All patients with lobar pneumonia received identical treatment except that alternate patients were given serum. The patients who were given serum received doses of polyvalent serum containing approximately 10,000 units of type I and 10,000 units of type II and a much smaller amount of type III. These doses were repeated every eight hours while the temperature was above 102 F. As soon as the type was determined, the polyvalent serum was replaced by the appropriate monovalent serum. Except for the serum, the treatment of all patients was identical. This standard treatment stresses certain features: (1) adequate fluids up to 3,000 cc. daily; (2) no drastic catharsis; (3) restriction of the use of opiates; (4) relief of pleuritic pain by strapping with elastic adhesive plaster; (5)

rapid digitalization for pulse rates over 120, and (6) oxygen by tent or nasal catheter for cyanosis or rapid breathing. Seven hundred and ninety-three cases were treated. The fact that the introduction of a therapeutic dose of type I antibody solution into the vein of a pneumonia patient infected with the type I pneumococcus neutralizes all the soluble specific substance and leaves in the blood an excess of antibody would lead the authors to hope that its use would have a beneficial effect in lobar pneumonia. The lessened mortality of 42 per cent in lobar pneumonia at Harlem Hospital in a large series of cases treated with antibody, as contrasted with those untreated, is so great that, with the support of recent similar results at the Bellevue and New York hospitals, the authors consider that the value of the antibody in the treatment of type I cases of lobar pneumonia is proved. When in a therapeutic test the ratio of difference in case fatality to its standard error is as great as 3.7, it is considered by expert statisticians to be conclusive proof. In lobar pneumonia caused by type II pneumococci, they found that only in early cases would an ordinary therapeutic dose of antibody surely neutralize all the soluble type II specific substance. In late severe cases, especially those showing bacteremia, even repeated doses sometimes failed to do so. In the early cases, even when bacteremia had developed, the results were usually strikingly good. The mortality for the two years was 22 per cent less in the treated than in the untreated cases, and the ratio of difference in case fatality to the standard error was 1.9. While the evidence of the value of type II antibody is not as overwhelming as in the case of type I antibody, it is of very great value, especially if it is given early in the disease. In the type III cases the specific antibody had only a slight effect in neutralizing the specific soluble substance and the therapeutic results were very slight, if any. Probably because of the excessive capsules which type III pneumococci have in or when freshly isolated from the body, the antibody has much less effect on freshly isolated than on virulent stock cultures. There is also another reason in that a fair proportion of supposed type III pneumococci are a subtype which really belong to the miscellaneous (IV) group, just as do the subtypes A and B of type II. These pneumococci are influenced only slightly by specific type III or specific type II antibody, but are influenced strongly by their own specific antibody. More than 50 per cent of the miscellaneous or group IV pneumococci, which form about 40 per cent of the whole, have been split up into ten types which are just as distinct from each other as are type I, II and III.

EFFECT OF MORPHINE ON FUNCTION OF NORMAL AND PATHOLOGIC KIDNEY

The work reported on by Ira R. Sisk and William S. Beyer, Madison, Wis., was undertaken primarily for the purpose of determining the safety of administering morphine sulphate in quantities sufficient to insure comfort to patients who had been subject to operations on organs of the genito-urinary tract, and who had some impairment of the kidney function. The results were sufficiently constant to justify the following conclusions: 1. Morphine sulphate, given in the usual therapeutic dose and repeated every four to six hours until the patient develops toxic symptoms does not impair the function of the normal kidney. 2. Urologic surgical patients may be given morphine sulphate in the usual therapeutic doses without fear of impairment of renal function.—Journal A. M. A.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

EDITOR: Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

MINUTES OF THE DECEMBER EXECUTIVE COMMITTEE MEETING

The Executive Committee convened in Grand Rapids at 6 p. m., December 20, 1928.

Present: B. R. Corbus, J. D. Bruce, J. H. Dempster, R. R. Smith, F. C. Warnshuis.

1. The Secretary reported on the mail vote as to the time and place of our January meeting of the Council. Twelve of the Councilors having voted that the session be held at the headquarters of the American Medical Association in Chicago on January 16 and 17, 1929, the Secretary was directed to so arrange for that meeting.

2. Some thirty of the Secretaries indicated that they would attend an Annual Conference of County Secretaries at the headquarters of the American Medical Association in Chicago on January 16 and 17, 1929, and fifteen of the Secretaries stated that if they were re-elected to office they would be glad to attend. The Secretary was directed to arrange for the Annual Conference of County Secretaries to be held at the headquarters of the American Medical Association in Chicago on January 16 and 17, 1929.

3. It was determined to allow Secretaries attending the Conference their actual traveling expenses and \$4.00 for hotel bill. The Palmer House of Chicago was selected as the headquarters.

4. The Secretary reported upon activity in the work of instituting legal procedures against violators of our Medical Practice law and submitted correspondence thereon that had been entered into with the Attorney General and the state constabulary.

5. The Secretary presented a communication from the Crippled Children Commission, requesting appointment of an advisory member in the commission's activity of drawing up amendments to the present Crippled Children's Act.

6. The Secretary transmitted a report of the Legislative Commission and imparted facts of activity as well as confer-

ence had with the governor, state senators and representatives.

7. Editor J. H. Dempster presented several matters pertaining to the publication of the Journal which were carefully considered and the editor authorized to continue along the line of the recommendations that he made.

8. An appropriation of \$3,500 was made for the purpose of defraying the expenses attendant upon the publication of the medical history of the profession in Michigan.

The meeting adjourned at 10:00 p. m.

F. C. Warnshuis, Secretary.

MID-ANNUAL MEETING OF THE COUNCIL

The Council will hold its mid-annual session on January 16, 1929, at the headquarters building of the American Medical Association, 535 N. Dearborn street, Chicago.

Why Chicago? In order that the Council and County Secretaries, who are to meet at the same time, may have the opportunity of personally visiting our national headquarters and gain inspiration from learning what our parent organization is achieving in behalf of all doctors.

The following program will govern the sessions. The afternoon of the second day will be devoted to a tour of inspection of the work of the several councils and bureaus and departmental activities.

MID-WINTER SESSION OF THE COUNCIL AT AMERICAN MEDICAL ASSOCIATION HEADQUARTERS,
535 NORTH DEARBORN STREET, CHICAGO, ILLINOIS, JANUARY 16, 1929

10:00 A. M.—

1. Call to Order.
2. Executive Committee Minutes.
3. Editor's Report.
4. Secretary's Report.
5. Treasurer's Report.
6. Medico-Legal Report.
7. Communications.
8. New Business.

Luncheon—1:45 P. M.

1. Report of Finance Committee.
2. Report of Publication Committee.
3. Report of County Society Committee.

4. Election—
Editor
Secretary
Treasurer
5. Business.
- 6:30 P. M.—Dinner with County Secretaries.
 - (a) President L. J. Hirschman.
 - (b) Chairman R. C. Stone.
 - (c) Dr. Olin West—General Manager and Secretary.
 - (d) Dr. M. L. Harris — President - Elect, A. M. A.

JANUARY 17, 1929

- 9:00-9:15 A. M.—
 1. Headquarters Building
W. C. Braun, Business Manager.
- 9:15-9:30 A. M.—
 2. Council on Education and Hospitals.
N. P. Colwell.
- 9:30-9:45 A. M.—
 3. Laboratory
P. M. Leach.
- 9:45-10:00 A. M.—
 4. Investigations
A. J. Cramp.
- 10:00-10:15 A. M.—
 5. Records and Biographies.
- 10:15-10:45 A. M.—
 6. The Journal and Association Publications
M. Fishbein.
- 10:45-11:00 A. M.—
 7. Legislation and Legal Medicine
W. C. Woodward.
- 11:00-11:30 A. M.—
 8. Public Health
J. M. Dodson.
- 11:35-11:45 A. M.—
 9. Council on Physio-Therapy
H. J. Holmquest.
- 11:45-12:15 P. M.—
 10. Your Association
Dr. Olin West.

HOSPITALIZATION OF CRIPPLED CHILDREN UNDER THE NEW LAW

The hospitalization of crippled children at state expense at "any hospital within the state other than the hospital at the University of Michigan, if such other hospital maintains a resident or visiting orthopedic surgeon and orthopedic nurses" has caused much discussion during the past year.

The policy of hospitalizing patients at state expense has been in effect in Michigan since 1913. Such hospitalization took place at the University of Michigan hospital. There were two reasons for this; one that hospitalization should be made available for those citizens of Michigan who were not financially able to provide such treatment of their own accord, and the other, that the students in the medical school of the university should have material for study.

In the case of crippled children, it is believed that no hospital in the state is large enough to provide enough beds for all of the children or for as many of them as it is desirable to get under treatment at this time, and also in the future. Further than that, it is believed that orthopedic surgery is not usually emergency work and that surgical treatment is postponed by families until many of the children reach the point of being too old to profit by this care to any appreciable extent. It is also felt that a great many more families will give consent to have treatment for these cases if their children can be cared for at hospitals nearer to their homes. For these reasons the bill makes provisions to cover such cases.

It next became necessary for the commission to determine which hospitals in the state were qualified under the law to receive state pay patients. The commission is made up of lay people and they in no way attempt to pass upon professional questions. This matter of the equipment of hospitals was referred to the group of orthopedic surgeons.

The group of orthopedic surgeons is made up of eleven men who specialize in this type of work. They are:

Dr. W. E. Blodgett, Detroit, President.
 Dr. Carl Badgley, Ann Arbor, Vice-President.
 Dr. D. M. Stiefel, Detroit, Secretary.
 Dr. A. D. LaFerte, Detroit, Acting President during absence of Doctors Blodgett and Badgley.
 Dr. F. C. Kidner, Detroit.
 Dr. John Hodgen, Grand Rapids.
 Dr. R. V. Funston, Detroit.
 Dr. A. G. Goetz, Detroit.
 Dr. F. E. Curtis, Detroit.
 Dr. F. H. Purcell, Detroit.
 Dr. C. W. Peabody, Detroit.

The group of orthopedic surgeons welcomes into its membership other surgeons who are eligible. Correspondence in this regard should be addressed to the secretary, Dr. D. M. Stiefel, 541 David Whitney building, Detroit.

The term "visiting orthopedic surgeon" has been referred to this group for interpretation. The orthopedic surgeons have gone on record as saying that this means "daily attendance". Hospitals which can qualify for recognition will be placed upon the approved list.

The hospitalization of patients financially able to pay for their treatment, does not come under the direction of the commission, but advice is rendered wherever possible. Two registered nurses on the staff of the commission have charge of this phase of the work.

After a diagnostic clinic has been held

these nurses remain in the community and visit the homes of the crippled children. Non-orthopedic cases are referred at once to the local family physician for treatment. The report of the examining orthopedic surgeon is explained to the family having a crippled child and a consultation is held with the family physician. In the case of a crippled child, the family being financially unable to pay for treatment, the advice of the family physician is sought in an endeavor to dispose of the case to the best satisfaction of all concerned. If the case would have to be charity if done locally, while the state would pay if treated at an orthopedic hospital, most family physicians welcome this opportunity of recommending that the case be taken out of town for treatment at the expense of the state. The commission in no wise interferes with the relations between the family and its physician, but desires always to preserve harmony in the community and at the same time render service to the afflicted. The ability of the family to finance its hospitalization is decided by the Judge of Probate in the county in which the patients have resided.

The great duty of the Commission for Crippled Children is the spreading of educational propaganda regarding the possibilities of correction of orthopedic difficulties in the light of modern surgery and science. The problem of the education of cripples brings this subject very much to the attention of the public. Instruction in school subjects can be carried on during periods of convalescence and proper facilities need to be provided so that the mental growth of the physically handicapped child will keep pace with his physical correction. Special convalescent schools would provide this necessity. At present there are three such places where treatment and education go hand in hand. They are University of Michigan hospital school, the Convalescent School of Children's Hospital of Michigan at Farmington, and the Sigma Gamma Convalescent School at Mt. Clemens. More of these combined schools and hospitals are needed in the state.

Esther Martin.

Legislation: In this issue will be found the revised copies of the two proposed bills that are to be introduced in the legislature. They have been sent to the officers and legislative committees of County Societies. They were accompanied with the request that senators and representatives be interviewed and requested to support this legis-

lation. We repeat anew this request and also suggest that individual members interview and write their legislators. One hundred per cent support and activity is imperative.

Holiday Greetings: Your Secretary is very appreciative for the hundreds of Christmas cards and greetings received from members. We regret that by necessity our personal mailing list was small, but we do want to acknowledge in this manner the receipt of these greetings and beg indulgence for this blanket acknowledgment.

Illegal Practitioners: If such there are in your county, the fault is that of your County Society. Let your officers confer with your county prosecutor. If he is indolent or declines to act, advise your State Secretary and you may expect action. Two weeks ago a complaint was filed on Monday. On Tuesday the man was arrested—on Thursday he was tried in circuit court, convicted, fined \$500 and sentenced to six months in Ionia prison—On Friday he was in prison. We cannot assure you of such promptness in every instance, but we can promise definite action. See your local prosecutor first.

THE SERVICE OF A MEDICAL SOCIETY TO THE COMMUNITY*

HARRISON SMITH COLLISI, M. D., F. A. C. S.
GRAND RAPIDS, MICHIGAN

Medical societies were originally organized for the purpose of correlated study and search of scientific truths. In the early days the medical society constituted an open forum wherein the physician might present an original investigation to the medical world. Hippocrates, Galen, Harvey, Lister, Pasteur and others aspired, as we do today, to contribute something for humanity. From their teachings have come the medical principles upon which preventive medicine is founded. With the increasing necessity for rendering public service in the field of preventive medicine, there has developed a close relationship between organized medicine and the health interests of the community, the state and the nation.

The first authentic medical society, consisting of four members, was secretly or-

* President's Address, read before Annual Meeting of Kent County Medical Society at Peninsular Club, Grand Rapids, Michigan, December 12, 1928.

ganized in Italy in 1560 A. D. A hundred years later the Royal Academy of Medicine was formed in Berlin and the Paris Academie de Chirurgie in 1731. Others followed and in 1800 the Royal College of Surgeons was organized in London. In America, the Boston Medical Society began in 1735, and the New Haven County Medical Society was founded in 1783. Later, other county and regional societies were formed, which ultimately led to the organization of the American Medical Association in 1848, adopting as its purpose "the advancement of the science of medicine and raising the standard of medical education." At this time there was not a single licensing or examining board in any state in the Union, a medical college diploma being the only requirement for the right to practice medicine.

There was little, if any, public health activity in these early societies. Physicians at that time did not digress from their routine attendance of the sick to inquire into the needs of community welfare. They knew very little about preventive medicine, which is largely responsible for our interest in public welfare. With the practical application of the principles of preventive medicine to combat such diseases as yellow fever, smallpox, typhoid and malaria, came the necessity for better medical organization and with the demand for this came the county, state and national societies, of which the county society is the basic unit in the same way that the cell is the histologic unit of the body.

The county medical society of today evidences the real democracy of medicine, for here all physicians meet on a common level for the purpose of studying medical problems, presenting cases and discussing questions of public health involving the welfare of the community. Primarily organized for the essential purpose of advancing the interests of science and the education of its individual members in medical subjects, it has now broadened its field of endeavor to educate the public in the applied principles of preventive medicine, to enlighten them on the needs for further protection against medical frauds and quacks, and to co-operate with lay organizations in the betterment of health.

In order to successfully serve the community, a medical society should be well organized with every member actively interested, especially the officers. The president should be a man of high professional standing, having the good will and support

of his associates, respected in the community, capable, persistent, intelligent, untiring in his efforts, and last, but not least, unselfish, giving freely of his time to every question bearing upon the functions of his society. Committees of the society should diligently engage in the study of problems assigned to them and report without unnecessary delay, for much depends upon promptness.

The most important function of county societies in the community is public health education. The earlier this is impressed upon the young individual, the more lasting and valuable is its effect. Periodical health inspections of school children cause the child to become interested in his own health and he will continue to seek medical knowledge with inspired confidence in the medical profession as he grows older. The public health education committee of the medical society will do a real service to appoint a staff of well qualified speakers to give instructive health lectures upon such subjects as "Toxin-antitoxin Immunization," "Prevention of the Common Cold," "Vaccination," "Exercise," "The Treatment of Simple Injuries," and historical talks upon the lives of such men as Jenner, Pasteur, Lister and other well known founders of preventive medicine. It should be explained that the early treatment and correction of congenital and acquired deformities will lessen the disability and lead to independent, useful citizenship.

Industrial employees should be taught the principles of health, hygiene and sanitation and how to protect themselves from minor injuries and subsequent infections that are prone to produce lengthy disability by not having reported for immediate first-aid treatment. Employers can be given suggestions about the proper amount of ventilation and sunlight for their factories. Statistics show that industrial plants having welfare departments under a physician's direction get better co-operation from employees.

Periodical health examinations for the adult have been advocated by the profession for several years. The county medical society can be of the greatest service to the community by sponsoring and conducting a health examination week campaign once each year. Properly advertised, it is bound to succeed. Newspaper publicity, circularization, placarding of factories, preliminary addresses before noon-day luncheon clubs and students as well as screen announcements in moving picture theatres will materially assist in promot-

ing public interest. During health week hospital clinics should be adequately staffed and utilized for conducting examinations of persons unable to pay for service. Private patients of physicians should be given special attention and health examinations encouraged among them. Local radio stations, some of which are now engaged in broadcasting questionable medical advice from unreliable sources primarily for commercial gain, should be enlisted in the cause and induced to lend their services to members of the county medical society in disseminating authentic medical information. Health movies presented during the week at local cinema theatres will produce favorable impression upon public opinion. In New York city motion pictures have been used in the public parks for some time to advance the interests of public health education. Medical society representatives serving in the hospital clinics during the campaign should be thoroughly trained in the proper technique for making physical examinations. Standard examination blanks should be used and tabulated records made of the number, type of case, diagnosis, advice given and ultimate disposition. A central committee of the society should later make a full statistical report through the press to the public.

Periodical health articles are now being published in the health column of "The Press", sponsored by the joint committee on public health education, comprising the Michigan State Medical Society, the University of Michigan, Michigan Department of Health and other allied organizations. Greater confidence is gained by readers when it is known that such authentic information emanates from substantial and reliable sources. Already prominent magazines and periodicals such as Literary Digest, Nation's Business, Children's Magazine and the Atlantic Monthly, as well as Hygeia, are publishing instructive health articles in which the public are informed on matters pertaining to their medical welfare. A recent article discussed the fact that people are now going to the barber, beauty specialist and gymnasium instructor for ultra-violet light treatments. It is the duty of every physician who has public interest at heart to make an attempt not to deprive the public of the benefits of ultra-violet light, but to see that it is used with understanding. Would it not be better for the organized medical profession to keep the public well informed on the fallacies of health fads and their over-

estimated value? Tuberculosis today is on the increase among young women, due largely to the fact that in order to become slender with boy-like figures, they have injudiciously starved and deprived their body tissues of proper nourishment by what they call "dieting." A well known skin specialist, in a scientific article on beauty preparations, stated that he had observed more cases of urticaria, erythema multiforme and dermatitis among women than ever before in his practice. He believed that the reason for this was the indiscriminate use of cosmetics and beauty powders. What is to become of the young woman who now uses the artificial tan powder upon her face?

The public is sufficiently educated today to be taken into the confidence of the physician on medical subjects. They represent an attitude that apparently classes them as children. The cults have been quick to realize this and have taken advantage of it to commercialize.

A medical society can render a great service to the community in influencing proper legislation governing medical practice. There are today in Michigan unscrupulous individuals, who misrepresent medical information and extort exorbitant fees from the public for worthless services. The name "Doctor" is not absolute assurance of standard medical qualifications. Our own Honorable Fred W. Green, Governor of this state, in a recent address before the Michigan State Medical Society, said, "Your profession needs, among other problems, to take definite steps to keep the public well informed of the progress of medicine and instruct the people how to discover the men most competent to practice the healing arts. Every time a citizen strays into the hands of a quack or an incompetent practitioner, he comes away with a lowered opinion of the title 'Doctor'—if he is lucky enough to get away. It would be a great day for Michigan if sometime a layman could open the door to any physician's office and know in this state the standards of admittance are highest and the title of 'Doctor' cannot be usurped by any ambitious fellow, half trained in medicine and improperly grounded in the essentials of medical education."

The cults and irregular practitioners are organized, unhindered by ethics, and are carrying on an extensive advertising campaign. It is imperative for organized medicine to give the public facts that will bring about a suitable reaction against

such practice. Violations of the Medical Practice Act have been reported during the past year in our own city and through the co-operation of the prosecuting attorney's office the circumstances in each instance have been investigated. Only yesterday the sister of a patient acutely ill with influenza reported that an unlicensed physician had been treating the case. Who knows but what this patient has developed pneumonia and may die as a result of improper care? Reaction usually occurs against the individual physician who reports instances of such violations to the officials, but when an organized medical society complains, there should be immediate action without prejudice.

Quacks and medical frauds work an extreme injustice on suffering humanity. Cancer cures and the secret treatment of tuberculosis are dangerously pernicious and should be prevented. The legislation committee of every medical society should do their utmost to stamp out such methods of practice.

Every medical society should have a civic relations committee, whose duty it is to attend meetings of civic committees, taking active part in all matters where health, hygiene and sanitation are involved. Our own Kent County Medical Society's special committee on clinics should be renamed and given instructions to indulge in questions of this nature. Perfect relationship between all health agencies and clinics and the medical society should be established. Much criticism by the profession of certain free clinics has existed in the past and the physician has always been regarded secondarily. The question has always been, "are physicians the architects of the health house, or are they the workers?" Medical men should themselves be in control of clinics and co-operate with lay organizations, thereby securing successful and satisfactory function. Our own President-elect Harris of the American Medical Association, has suggested that medical societies operate all free clinics and thereby render their own services to persons unable to pay. Such an example is seen in the Cass County Medical Society, representing the physicians of Fargo, North Dakota. Since 1923, they have been actively co-operating in a community health program which at the present time is successfully controlled.

Another service can be rendered to the community in constructive opinions on the laws regulating the sale of milk. Certified, pasteurized and grade "A" raw milk are

being advocated. Health departments of each community need the support of organized medicine for education of the public in these things. Even the Metropolitan Life Insurance Company is now publishing paid advertisements giving information on the qualifications of certified milk.

Certain economic problems, such as the financial relation between the patient and physician, may be studied by the civic relations committee. There is at present a committee of which Dr. Ray Lyman Wilbur, President of Leland-Stanford University, is chairman, that has already begun an exhaustive five-year study of the cost of medical care. During the last fifty years the number of hospitals in the United States has increased from 149 to over 7,000. Hospital beds have increased from 35,000 to over 800,000. This is a percentage of increase of 2,000 per cent as compared to 175 per cent increase in population.

Case records of diseases, surgical conditions and injuries received in industry and traffic accidents are in the files of our hospitals. These are not made use of as they should be. Statistics compiled from these and published will give the laity information that will be of use to them in reacting for their welfare. Do they know that the majority of automobile accidents occur among negligent drivers, who perhaps have some mental, nervous or physical defect which impairs their qualifications as a competent driver? Do they know that a large percentage of these same drivers do not carry insurance and that our own welfare funds are being dissipated to pay hospital bills for which they have been responsible? The number of cases of ruptured appendices could be used to compile facts leading to warnings to persons having abdominal pain, advising them never to take a cathartic before consulting a physician on the presumption that they may have acute appendicitis. The library committee of the medical society, with the assistance of hospital librarians, can do much to tabulate statistics of these records. The world war proved the value of such compilation.

These considerations may seem theoretical, yet they are now all in practice. The County of Kings Medical Society in Brooklyn, New York, serves as an example. Its activities have existed for more than one hundred years and valuable service has been rendered to the community. Beginning as a house to house organization and meeting for the first time in the office of

Dr. Adrian Vander Veer in 1822 in Flatbush, it later grew in 1900 to an organization with a permanent home dedicated for \$90,000 and having a membership of over 1,600. One of the greatest medical libraries is housed in this institution containing over 100,000 volumes, and is open to the public. It has indulged in great activities in public health education, legislation and civic relations. It stands high in public opinion.

Our own Kent County Medical Society, during the past three years, has indulged in most all of these same functions and has made a creditable showing. We have sponsored our first health examination week and for three years have conducted a course of school and factory lectures on health subjects. We have practically written the new milk ordinance of Grand Rapids and have studied the free clinic situation and thereby established satisfactory relations with the health agencies. We have laid the foundation for an active campaign against quacks and medical frauds and are interested in a number of other civic enterprises involving public health.

The coming year holds much in store for the library committee. If they will study and collect statistics on traffic accident cases in our hospitals, it is evident that the nucleus for improved traffic laws for motor vehicles upon our highways will result. Let us make the driver of every automobile financially responsible for injuries either to himself or the unfortunate individual whom he strikes. Compulsory insurance laws for automobile drivers will lead to proper mental and physical examinations of applicants for drivers' licenses.

As a retiring President's message, let it be said that the Kent County Medical Society stands higher today in the public opinion of this community than ever before. Let us continue the work so that at the end of each year the annual audit is a credit not only to our profession, but to every citizen of Grand Rapids and its vicinity.

HEALTH IN THE EDUCATION PLATFORM

The policies of the National Education Association are developed through a committee which presents a statement each year to be passed on by the representative body. The platform for the current year was approved by the representative assembly of the National Education Association at its annual session in Minneapolis, July 6. It is a significant statement, emphasizing the relationship of education to our government, and the importance of parent teacher contacts, of retirement systems and of securing tenure of office, of a live and developing curriculum, of Americaniza-

tion, and of the control of illiteracy in the adult. To physicians particularly one section of this platform will mean a great deal. Apparently the National Education Association recognizes that health, hygiene and a knowledge of the structure and function of the human body are fundamental to human happiness. This section of the resolution is quoted herewith in full:

Health and physical education: Health is winning increasing and clearer recognition as the fundamental objective in the entire program of public education. We recognize health education and health service for children as a definite and appropriate function of the public school. This objective should be defined as health of body, health of mind, and health of character. It is a primary function of the school to discover the health assets and health liabilities of the child, to conduct health inspection for the prevention and control of communicable disease, to keep a record of the health and growth of each child as a part of an educational record, to provide a healthful school environment, and to safeguard the life and health of the pupils in promoting all first aid and safety provisions against accident.

The purpose of health education is to bring to bear upon every child in the school the greatest possible number of influences favorable to the inculcation of habits, attitudes and knowledge desirable for individual and community health.

Physical education should put the major emphasis upon an extensive program of wholesome activities for all pupils, rather than the devotion of the facilities of instruction primarily to the more highly gifted and intensely developed few capable of winning victories and contests.

We indorse all movements in the communities and in the schools of the country for the promotion of physical education and mental health. We believe there is no greater objective in education than the ideal of a sound mind in a sound body.

Such a policy must be an inspiration not only to the teaching profession of the country, but also to the medical profession and particularly to the parents of the millions of children who are sent each day to our schools. What a pity that the adults of our generation could not have had a similar opportunity! The great problem of the present day is to make parents know as much as their children are learning about the human body in health and in disease.—*Jour. A. M. A.*, Oct. 6, 1928.

CHANGE IN CHARACTER OF POPULATION SEEN IN 1975

Fewer foreign born and fewer negroes, more in the age group over 50 and fewer, in the group under 15, are some of the changes in the population that will appear in 1975 according to prophesies of the Scripps Foundation, says P. K. Whelpton of the staff. The proportion of native whites is expected to increase from 77 to 85 per cent, that of foreign whites will decline from 13 to 6 per cent and that of negroes from 10 to 9 per cent. The age group under 15 now has about one-third of the population but in 1975 it will be only one-fourth. The group from 15 to 50 will remain about one-half the total population, while in the group over 50, there will be an increase, from the present population of one-sixth, to one-fourth. The urban population will be 69 per cent of the total in 1975, as compared with 51 per cent in 1920. This will be due to the decline in farming, but the actual change from rural to urban life will be greater, as the rural population in 1975 will probably consist to a greater extent than now of persons living in the country and working in the city.—*Science Service*.

Medical Practice Act

A BILL to amend sections 1, 3, 4 and 9 of Act number 237 of the Public Acts of 1899, as amended, entitled, "An Act to provide for the examination, regulation, licensing and registration of physicians and surgeons, and for the punishment of offenders against this act, and to repeal acts and parts of acts in conflict therewith", being sections 6724, 6726, 6727, and 6732, Compiled Laws of 1915, and to add a new section thereto to stand as section 7 (a).

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 SECTION 1. Sections 1, 3, 4 and 9 of Act number 237 of the Public Acts of 1899,
2 as amended, entitled, "An Act to provide for the examination, regulation, licens-
3 ing and registration of physicians and surgeons, and for the punishment of offend-
4 ers against this act, and to repeal acts and parts of acts in conflict therewith",
5 are hereby amended, and a new section to stand as section 7 (a) is hereby added
6 thereto, said amended sections and new section to read as follows:

7 SECTION 2. The governor shall appoint, by and with the * * * consent of the
8 senate, ten resident electors of the state, who shall constitute a board of regis-
9 tration in medicine. * * * The governor may select such appointees from the latest
10 lists filed in * * * his office * * * by the secretary of the Michigan State Medical
11 Society, such lists to contain at least treble the number of names as * * * there
12 are members to be appointed. * * * All persons so appointed shall be legally reg-
13 istered physicians of this state, shall be graduates in good standing of reputable
14 medical colleges, and shall have been actively engaged in the practice of medi-
15 cine in this state for at least six years immediately preceding the time of such
16 appointment. * * * The present members of said board shall continue in office until
17 the expiration of the terms for which they were appointed, and their successors
18 shall be appointed for terms of four years each. No member of said board shall
19 belong to the faculty of any medical college or university. The governor shall also
20 fill vacancies occasioned by death or otherwise, and may remove any member for
21 the continued neglect of duties required by this act. Vacancies in said board
22 shall be filled in accordance with the provisions of this act for the establish-
23 ment of the original board, and a person appointed to fill a vacancy shall hold
24 office during the unexpired term of the member whose place he fills. The busi-
25 ness of said board shall be transacted by and receive the concurrent vote of from
26 at least seven members.

27 SEC. 3. On and after the date of the taking effect of this act, all men and women
28 who are not already legally registered under act number 237 of the public acts
29 of 1899, and acts amendatory thereto, and who wish to begin the practice of
30 medicine, surgery and midwifery in any of its branches, in this state, shall make
31 application to the Board of Registration in Medicine, to be registered and for a
32 certificate of registration. This registration and certificate shall be granted to
33 such applicants as shall furnish satisfactory proofs of being at least twenty-one
34 years of age, and of good moral and professional character, but only upon com-
35 pliance with the following conditions contained in one or either of subdivisions
36 one and two of this section: *Provided, That such applicants shall, in addition to*
37 *complying with the requirements hereof, fully comply with any and all other con-*
38 *ditions and requirements provided by law:*

39 First. The applicant shall be registered and given a certificate of registration if
40 he or she shall satisfactorily pass an examination under the immediate authority
41 and direction of the board upon the following subjects: Anatomy, histology and
42 embryology, physiology, chemistry and toxicology, bacteriology, pathology, diagno-

1 sis, hygiene and public health, medical jurisprudence, diseases of the eye, ear,
2 nose and throat, obstetrics, gynecology and surgery, and such additional subjects
3 made necessary by advances in medical education as the board may designate, said
4 examination to be conducted as follows:

5 (a) The examination may be taken as a whole in all of the subjects as aforesaid,
6 and shall be designated as the primary-final examination, or said examination
7 may be divided into a primary examination, upon the subjects of anatomy, his-
8 tology and embryology, physiology, chemistry and toxicology, and bacteriology,
9 and a final examination upon the remaining subjects as aforesaid, not included
10 in the primary examination;

11 (b) The applicant shall file with the secretary of the board, at least one week
12 prior to an examination, an approved application, through a blank furnished by
13 the board, covering the detail of his or her personal history, and preliminary and
14 medical education, and such other evidence of qualification as the board may re-
15 quire;

16 (c) The board may make such rules and regulations governing the conduct of
17 the examinations as it shall deem necessary, and wilful violation of such rules and
18 regulations shall subject the applicant to the loss of the examination and fee;

19 (d) The examination shall be made as practical as possible in order to test the
20 applicant's qualifications as a practitioner of medicine, the method of which shall
21 be in accordance with the board's best judgment, and may be a written, clinical,
22 laboratory or oral examination, or a combination of one or more of the above
23 methods;

24 (e) An average percentage of at least seventy-five per cent of correct answers
25 on all the subjects listed under this section, and of not less than fifty per cent on
26 each subject, shall be required of every applicant: Provided, That in the case of
27 a qualified applicant who has been in reputable and legal practice at least five
28 years, at the discretion of the board, this requirement of minimum percentage
29 may be modified by the board to meet the necessities of the individual case. An
30 accepted applicant for the primary-final examination, or for the final examination,
31 as noted in subdivision one (a) of this section, shall have a diploma from a
32 legally incorporated, regularly established and recognized college of medicine
33 within the states, territories, districts and provinces of the United States, or
34 within any foreign country, having as a minimum requirement a four years' course
35 of eight months in each calendar year: * * * Students of medicine in regular at-
36 tendance at a recognized medical college and endorsed by said board as having
37 fulfilled the legal requirements of the state for entrance to, or matriculation in,
38 recognized medical colleges, and who have completed, in accordance with the
39 board's adopted minimum standard of medical education, in such recognized med-
40 ical college, through attendance and examination, and not prior to the termina-
41 tion of the second year in such institution, among others the subjects of anatomy,
42 histology, and embryology, physiology, chemistry and toxicology, and bacteriology,
43 shall have the right to a primary examination, as recorded under subdivision one
44 (a) of this section, upon prescribed subjects, said examination to be held at
45 such times and places as may be determined by the board, and to receive from the
46 board a certificate showing the credits received in the several subjects upon which
47 an examination shall have been had as aforesaid, and such credits obtained shall,
48 at the election of the student, be included in and form a part of the examination
49 heretofore called the final examination under subdivision one (a) of this section:
50 Provided, That subsequent to graduation from a recognized medical college, in
51 said final examination for a certificate of registration the applicant shall, if pre-
52 senting said credits to the board at the time of his or her application for examina-
53 tion be examined only in those remaining subjects prescribed under subdivision
54 first of this section and which have not been listed as subjects of aforesaid pri-
55 mary examination. The applicant shall pay to the board a fee of twenty-five dol-
56 lars prior to the examination, divided as follows: Ten dollars for the primary
57 examination, and fifteen dollars for the final examination. If such examinations
58 are taken together, or as a whole, the fee shall be twenty-five dollars for such
59 primary-final examination. No additional fee for registration shall be charged to
60 those who successfully pass the examinations. The board shall, in the recognition

1 of medical colleges, in its discretion, list such colleges in three or more classes or
2 groups: Group one including those colleges which fulfill the advanced require-
3 ments of this act and which maintain the board's standards of preliminary and
4 medical education; group two including those colleges which have fulfilled the
5 standard of medical education demanded by this state at the date of the diploma;
6 and group three including those colleges whose courses are recognized only for
7 advanced standing in recognized colleges listed under group one: Provided, That
8 a diploma issued by a medical college listed by the board in one or more of the
9 groups or classes as aforesaid, shall be recognized as a qualification under this act,
10 in the event only of its representing the actual standards of preliminary and med-
11 ical education within the provisions of this act. The board of registration in medi-
12 cine shall, from time to time adopt minimum standards of preliminary and medical
13 education, and no high school, academy, college, university or medical college, or
14 other institution or board, shall be approved and designated or its diploma or
15 certificate be recognized by said board under subdivision one of section three of
16 this act, unless in the judgment of the board, it conforms with such standard.

17 Second. * * * *Any person who has resided in this state for a period of at least one*
18 *year immediately preceding the date of application for registration under the pro-*
19 *visions of this act, and who shall have notified the said board of his or her inten-*
20 *tion to apply for registration at least one year prior to making such application,*
21 *may at the discretion of the board, be registered and given a certificate of regis-*
22 *tration if he or she shall present satisfactory proof of the possession of a certifi-*
23 *cate of registration or license which has been issued to said applicant within the*
24 *states, territories, districts or provinces of the United States, or within any for-*
25 *ign country, where the requirements for the registration of said applicant at the*
26 *date of his or her license shall be deemed by said board of registration in medi-*
27 *cine to be equivalent to those of * * * the laws of this state.* The fee for regis-
28 tration from applicants of this class shall be fifty dollars, and for the endorsement
29 of a certificate to another state five dollars;

30 Third. The board is authorized to issue a license or certificate of registration to
31 any person who desires to practice a system of treatment of human ailments or
32 diseases, and who does not in such treatment use drugs or medicines, internally
33 or externally, or who does not practice surgery or midwifery, under the provi-
34 sions of this act: Provided, * * * *That such applicant for such license or certifi-*
35 *cate shall have complied with any and all educational requirements which are now*
36 *or hereafter may be required by law for license to practice the healing art in any*
37 *of the branches, and shall pass an examination before the board upon the following*
38 *subjects: Anatomy, histology, and embryology, physiology, chemistry, bacteriol-*
39 *ogy, pathology, diagnosis, hygiene and public health.* This examination shall be
40 concurrent with and equivalent to the examination provided for practitioners of
41 medicine under section 3, subdivision 1, of this act, and shall be in harmony with
42 the provisions of this section and subdivision covering such examination in the
43 subjects as above specified: Provided, however, That such examination shall be a
44 continuous one and not subject to a division into a primary and a final examina-
45 tion. The fee for such examination shall be fifteen dollars. A practitioner under
46 this subdivision shall not be permitted to use in any form the title of "doctor" or
47 "professor" or any of their abbreviations, or any other sign or appellation to his
48 or her name which would in any way designate him or her as a physician or sur-
49 geon qualified under the provisions of section 3, subdivision 1 and 2 of this act, or
50 in violation of the provisions of this act. All persons granted a certificate of
51 registration or license under the provisions of this subdivision 3, shall also con-
52 form to the provisions of act number 237 of the Public Acts of 1899, and acts
53 amendatory thereto, except as provided in this subdivision: Provided, That all
54 practitioners described in section 3, part 3, who have been granted a diploma by
55 a college incorporated for the purpose of teaching their method of treatment and
56 who file with the state board of registration in medicine prior to October 1, 1913,
57 an affidavit stating that they have practiced in the state of Michigan for a period
58 of two years prior to September 1, 1913, shall be registered and authorized to
59 practice without examination under the provisions of section 3, part 3, of this act.
60 A fee of five dollars must accompany each application for registration under this
61 provision;

1 Fourth. If any person shall unlawfully * * * *cause* himself or herself to be regis-
2 tered under this section, whether by false and untrue statements contained in his
3 application to the board of registration of medicine, or by presenting to said board
4 a false or untrue diploma, certificate or license, or one fraudulently obtained, he
5 he shall be deemed guilty of a felony, and upon conviction thereof shall be pun-
6 ished by a fine of not less than three hundred dollars nor more than five hundred
7 dollars, or by imprisonment at hard labor for not less than one year nor more
8 than three years, or both, at the discretion of the court, and shall forfeit all rights
9 and privileges obtained or conferred upon him by virtue of such registration;

10 Fifth. Any person who shall swear falsely in any affidavit or oral testimony
11 made or given by virtue of the provisions of this act, or the regulations of the
12 board of registration of medicine, shall be deemed guilty of perjury, and, upon
13 conviction thereof, shall be subject to all the pains and penalties of perjury;

14 Sixth. The board of registration of medicine may refuse to issue *and/or* * * *
15 *may revoke or suspend* a certificate of registration or license provided for in this
16 section, to any person *found by a majority of said board to be* guilty of grossly
17 unprofessional and dishonest conduct. *Provided, that the board shall not refuse*
18 *to issue or shall not revoke any such certificate under the provisions hereof until*
19 *reasonable notice of such refusal to issue or intention to revoke or suspend shall*
20 *have been given to the applicant therefor or holder thereof, together with a notice*
21 *of the specific charges against him and the time and place of hearing thereof.*
22 The words "unprofessional and dishonest conduct", as used in this act, are hereby
23 declared to mean:

24 (a) The procuring, aiding or abetting in procuring a criminal abortion;

25 (b) The obtaining of any fee on the assurance that an incurable disease can be
26 permanently cured;

27 (c) The wilfully betraying of a professional secret;

28 (d) All advertising of medical business in which grossly improbable statements
29 are made, or where specific mention is made in such advertisements of venereal
30 diseases or diseases of the genito-urinary organs;

31 (e) Having professional connection with, or lending one's name to an illegal
32 practitioner of medicine; or having professional connection with any person or
33 any firm or corporation who advertises contrary to the provisions of this section,
34 or with any person who has been convicted in a court of competent jurisdiction
35 under the provisions of this section;

36 (f) All advertising, of any nature or kind, of any medicine, or of any means
37 for the regulation or re-establishment of the menses;

38 (g) All advertising of any matter of an obscene or offensive nature derogatory
39 to good morals or contrary to act number 62 of the Public Acts of 1911;

40 (h) Employing or being employed by any capper, solicitor or drummer for the
41 purpose of securing patients; or subsidizing any hotel or boarding house with a
42 like purpose, or paying, or offering to any person, money or any other thing of
43 value with a like purpose, or advertising to do so in any form whatsoever; or the
44 division of fees in a consultation or a reference of a patient to a specialist, when
45 no actual professional service is rendered by the physician referring the case,
46 without the knowledge of the patient or the person concerned in the payment
47 thereof;

48 (i) Being guilty of offenses involving moral turpitude, habitual intemperance, or
49 being habitually addicted to the use of morphine, opium, cocaine, or other drugs
50 having a similar effect; or of prescribing or giving away any substance or com-
51 pound containing alcohol or drug for other than legal and legitimate therapeutic
52 purposes;

53 Seventh. It shall be a misdemeanor for any person to be guilty of "unprofes-
54 sional and dishonest conduct" as defined in this act. Any person who has been
55 issued a certificate or registration or license under this act, and who shall be
56 charged with the commission of such misdemeanor, shall be tried in a court of
57 competent criminal jurisdiction, and upon conviction thereof shall be fined for
58 each offense not to exceed two hundred and fifty dollars, or shall be imprisoned in
59 the county jail not to exceed three months, or may be both fined and imprisoned,

1 in the discretion of the court. The creation of such misdemeanor by this act shall
2 not be construed to supersede any existing remedy or punishment, whether civil or
3 criminal, for any act embraced within the provisions of this act, but shall be con-
4 strued to be in addition thereto.

5 *In addition to the provisions hereinbefore provided for the refusal to issue, revoca-*
6 *tion or suspension of a license or certificate,* the board of registration in medicine
7 may, upon the filing with it of a duly certified copy of a final conviction obtained
8 in accordance with the provisions of this act, revoke or suspend for a limited period,
9 not less than six months, the certificate or license of the person so convicted. The
10 said board of registration in medicine may also revoke any certificate of registra-
11 tion or license of any person guilty of a criminal offense created by or embraced
12 within the provisions of this act, or within the provisions of any state, provincial,
13 territorial or federal act in the United States or in foreign countries, when such
14 criminal offense or such fraud or perjury shall have been legally established in a
15 court of competent jurisdiction. Said board may also revoke any certificate of
16 registration or license heretofore or hereafter granted upon mistake of material
17 fact or by reason of fraudulent misrepresentation of fact by such applicant. Any
18 person charged with a violation of the provisions of this subdivision 7 of section
19 3 shall have a fair hearing before the board, upon sufficient notice of such hearing:
20 Provided, That this section shall not apply to such forms of contract practice as
21 are from time to time endorsed by this board.

22 SEC. 4. The person receiving a certificate of registration shall file the same, or a
23 certified copy thereof, with the county clerk in * * * *each county* * * * *where he*
24 *practices,* and said clerk shall file said certificate or the certified copy thereof,
25 and enter a proper memorandum thereof in a book to be provided and kept for that
26 purpose, and may collect therefor a fee of fifty cents for each certificate or copy
27 thus filed. And said county clerk shall, on the first day of each month, furnish
28 to the secretary of said board a list of all certificates filed in his office during
29 the preceding month on a blank provided for that purpose, and upon notice to him
30 of the change of location or death of a person granted a certificate, or upon the
31 revocation of the certificate granted such person, said county clerk shall enter at
32 the appropriate places in the record so kept by him a memorandum of said facts;
33 so that the record so kept by said county clerk shall correspond with the records
34 of said board, so kept by the secretary thereof. In case a person having thus filed
35 a certificate shall move into another county of the state, he shall procure from
36 said county clerk a certified copy of said certificate, and file the same with the said
37 county clerk of the county to which he shall so remove. Said county clerk shall
38 file and enter the same with like effect, as if the same was the original certificate.

39 SEC. 7 (a). *The attorney general, prosecuting attorney, board of registration in*
40 *medicine, or any citizen of any county, where any person shall engage in the prac-*
41 *tice of medicine, chiropractic or drugless healing as provided herein, without first*
42 *having obtained a license so to do, may maintain a suit in the name of the people*
43 *of the state of Michigan in the circuit court in chancery of the county in which*
44 *any such person shall engage in practice to enjoin such person engaging in such*
45 *practice until he shall secure the license or certificate provided for herein. And*
46 *any person who has been so enjoined who shall violate such injunction shall be*
47 *punished for contempt of court provided that the institution of such proceedings*
48 *shall not relieve such person so practicing without a license or certificate from a*
49 *criminal prosecution therefor as provided by law but such remedy by injunction*
50 *shall be in addition to any remedy now provided for the criminal prosecuting of*
51 *such offender.*

52 SEC. 9. Any person who shall append the letters "M.D." or "M.B." or other let-
53 ters in a medical sense, or shall prefix the title "doctor" or its abbreviation, or
54 any sign or appellation in a medical sense, to his or her name, or *who shall own*
55 *or operate an institution where treatments for human ailments are given without*
56 *being given under the full direction of registered physicians and nurses, excepting*
57 *those institutions owned or operated for the practice of chiropody or dentistry,* it
58 shall be prima facie evidence of practicing medicine within the meaning of this
59 act. In this act, unless otherwise provided, the term "practice of medicine" shall

1 mean the actual diagnosing, curing or relieving in any degree, or professing or
2 attempting to diagnose, treat, cure or relieve any human disease, ailment, defect,
3 or complaint, whether of physical or mental origin, by attendance or by advice, or
4 by prescribing or furnishing any drug, medicine, appliance, manipulation or
5 method, or by any therapeutic agent whatsoever.

Professional Qualifications Act

A BILL to prescribe the educational qualifications of applicants for license to practice the healing art, as defined herein; to create a Board of Professional Registration, and to define the powers and duties thereof; and to prescribe penalties for violations of the provisions thereof.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 SECTION 1. A Board of Professional Registration to consist of nine members is
2 hereby created to carry out the provisions of this act. The members of said
3 board shall be appointed by the Governor within thirty days from the effective
4 date of this act, and shall be chosen from teachers of professorial rank at any
5 university or college in this state authorized by law to confer the Bachelor of
6 Science, Bachelor of Arts, Master of Science or Master of Arts degrees, except
7 those schools or colleges known as Normal Schools or Normal Colleges. Three
8 members of said board shall serve for a term expiring the first day of July, 1931;
9 three members of said board shall serve for a term expiring the first day of July,
10 1932; and three members of said board shall serve for a term expiring the first
11 day of July, 1933, and upon the expiration of the terms of each of such members,
12 the Governor shall appoint their successors for terms of six years. The Gov-
13 ernor shall have the power to fill any vacancy on said board, and the person ap-
14 pointed to fill any vacancy shall serve for the unexpired term of the office vacated.

15 SEC. 2. The members of the Board of Professional Registration shall, within two
16 weeks after their appointment, meet at the State Capitol at Lansing, and shall
17 then elect a president and secretary from their own members, said officers to hold
18 office for a period of one year or until their successors are elected. The secretary
19 shall execute and file with the Secretary of State a bond running to the State of
20 Michigan in the penal sum of five thousand dollars, with sufficient sureties, to be
21 approved by the Governor, for the faithful discharge of his duties. Said board
22 shall meet at such times and places as shall be determined by said board for the
23 purpose of conducting the examinations hereinafter provided for, and for the pur-
24 pose of any and all other business to come before said board. Not less than six
25 members shall constitute a quorum of said board for the transaction of business:
26 Provided, That any action taken by said board shall require the affirmative
27 vote of five members thereof. The members of said board shall receive as com-
28 pensation not to exceed ten dollars per day for each day said members shall attend
29 the active session of said board, and their necessary traveling expenses incident to
30 the performance of their duties hereunder: Provided, That the secretary of said
31 board shall receive a salary of eighteen hundred dollars annually, to be paid at
32 the times and in the manner as salaries of state officers and employees are paid.

33 SEC. 3. The term "art and science of healing" as used herein, shall mean to ex-
34 amine into the fact, condition or cause of human health or disease, or to treat,
35 operate, or advise for the same, or to undertake, offer, advertise, announce or hold
36 out in any manner to do any of said acts, for compensation, direct or indirect, or
37 in the expectation of compensation: Provided, That nothing in this act shall ap-
38 ply to applications for a license to practice dentistry, optometry, chiropody, nor
39 to those persons seeking a license to confine their ministrations to the sick or af-
40 flicted, as nurses, nor to those who administer to the sick or afflicted by means of
41 prayer.

42 SEC. 4. On and after the effective date of this act, all persons who are not the
43 holders of legal licenses to practice the art and science of healing, shall, before
44 making application to any board of registration having the power to issue licenses

1 to practice the art and science of healing in any of its branches, secure from the
2 Board of Professional Registration the following certificates:

3 (a) A certificate issued by said board and signed by its president and secretary,
4 that such person has satisfactorily completed a four years' high school course, or
5 equivalent high school credits.

6 (b) A certificate issued by said board and signed by its president and secretary
7 that said person has secured sixty hours of collegiate credit as hereinafter speci-
8 fied and has satisfactorily passed the examination before said board, if, in the
9 opinion of said board, such examination shall be necessary. No board of registra-
10 tion or examination having power to issue licenses to practice the art and science
11 of healing, in any of its branches, shall accept for examination any person who is
12 not the holder of the certificate specified in this section.

13 SEC. 5. In order to secure from said board the certificate specified in subdivi-
14 sion (a) of section 4 hereof, each person shall fill out a blank to be provided by
15 the board for such purpose, upon which shall appear the name of the applicant,
16 place and time of birth, nationality, name, place and time of attending the high
17 school or schools, a list of credit units secured, and such other information as
18 the board shall require, which blank shall be signed by the applicant and by the
19 superintendent or principal of the high school attended. Upon receipt of such
20 blank properly signed, the Board of Registration shall examine the same and if
21 such high school credits equal a total of fifteen units, and said school or schools in
22 which said credits were secured are on the approved list of the North Central
23 Association of Colleges and Secondary Schools, or schools of equal rank therewith,
24 said board shall issue to the applicant the certificate specified in subdivision (a) of
25 Section 4 hereof. Every application for such certificate shall be accompanied by
26 a fee of one dollar.

27 SEC. 6. In order to secure from said board the certificate specified in subdivision
28 (b) of section 4 hereof, each applicant shall fill out a blank to be provided by
29 said board, upon which shall appear the name of the applicant, time and place of
30 birth, nationality, name of college, university or school attended and time of at-
31 tendance, together with a list of college credits secured, which shall include Eng-
32 lish Language, (Grammar, Rhetoric and English Literature) six hours; Biology,
33 Botany, Zoology, General Biology), eight hours; Chemistry (Inorganic, Qualita-
34 tive Analysis, Quantitative Analysis, organic), eight hours; Physics, eight hours;
35 Modern Language (French or German or both), six hours; and such other in-
36 formation as the board shall direct. Said blank shall be signed by the applicant
37 and by the proper college officers having knowledge of the facts therein contained,
38 and shall be forwarded to the Board of Professional Registration, together with
39 an examination fee of ten dollars, not less than ten days prior to the time of hold-
40 ing the examination hereinafter provided for.

41 SEC. 7. All persons who have complied with the provisions of sections 5 and 6
42 hereof, and who shall have a minimum of sixty hours of college credit from a col-
43 lege or university approved by said board, shall be eligible for examination before
44 the Board of Professional Registration, and shall be required to take the same at
45 the discretion of the Board, which examination shall be held at such time and
46 place as shall be determined by the Board. Such examination shall embrace the
47 subjects enumerated in Section 6 hereof, and such other subjects as the board
48 shall determine: Provided, That such examination shall include at least eighty
49 per cent of the sixty semester hours college credits claimed by the examinee; and
50 provided further, that an average of at least seventy-five per cent shall be re-
51 quired for the passage of any examination, and no person shall be allowed to pass
52 who shall receive a grade of less than fifty per cent on any one subject.

53 The board shall make such rules and regulations governing the conduct of exam-
54 inations as it shall deem expedient, and wilful violations thereof shall subject the
55 applicant to the loss of the examination fee, and shall bar him from the privilege
56 of further examination for a period of two years. Each person who passes said
57 examination shall be entitled to receive the certificate provided for in subdivision
58 (b) of section 4 hereof; Provided, That the board may, in its discretion, accept

- 1 in lieu of such examination, a bachelor's degree from any college or university
- 2 approved by said board.
- 3 SEC. 8. Any person who shall fraudulently or unlawfully obtain either of the
- 4 certificates specified in section 4 hereof, shall be guilty of a felony, and upon con-
- 5 viction thereof shall be punished by a fine of not less than three hundred nor
- 6 more than one thousand dollars, or by imprisonment in the state prison for not
- 7 less than one nor more than two years, or both such fine and imprisonment in
- 8 the discretion of the court.
- 9 SEC. 9. All sums of money received by said board shall be paid to the state treas-
- 10 urer not later than thirty days after the receipt thereof, and shall be credited to
- 11 the general fund.
- 12 SEC. 10. All acts and parts of acts inconsistent herewith are hereby repealed.

OAKLAND COUNTY

Dr. Frederick A. Baker was re-elected president of the Oakland County Medical society, which held its 98th annual meeting at the Board of Commerce.

Dr. D. G. Castell was named vice president, Dr. Isaac C. Prevette was re-elected treasurer and Dr. C. A. Neafie again was chosen secretary.

On the board of directors will be Dr. Robert Y. Ferguson, Dr. B. M. Mitchell and Dr. Harry A. Sibley.

Dr. Robert H. Baker and Dr. Joseph Morrison of Royal Oak, have been re-elected delegates to the Michigan State Medical Society convention.

Alternate delegates will be Dr. Frank Mercer and Dr. George P. Raynale of Birmingham.

Discussion of business details was the main feature of the evening, according to Dr. Neafie, secretary. Dinner preceded the meeting.

SHIAWASSEE COUNTY

The annual election of officers of the Shiawassee County Medical Society occurred on Tuesday evening, December 4th, when the following were elected for the year 1929:

President, Dr. W. F. Weinkauff, Corunna.
Vice President, Dr. F. A. Watts, Owosso.
Secretary-Treasurer, Dr. W. E. Ward, Owosso.
Delegate, Dr. I. W. Greene, Owosso.
Alternate, Dr. W. E. Ward, Owosso
Medico-Legal Representative, Dr. A. M. Hume, Owosso.

Board of Directors, Dr. J. J. Blue, Dr., A. L. Arnold, Jr., and Dr. C. A. Crane, Corunna.

W. E. Ward, Secretary.

MACOMB COUNTY

There were nine meetings held by our Society during the year 1928.

Meetings were suspended for the summer months, July, August and September.

January meeting—Dr. Laird of Detroit gave a paper on Eye, Ear and Nose and Throat Work."

February meeting—Dr. D. Stiefel of Detroit gave an illustrated talk on "Orthopaedics."

March meeting—Dr. Loren W. Shaffer of Detroit presented a paper on "The Treatment of Syphilis."

April meeting—Dr. G. C. Burr of Detroit—"Tuberculosis of the Kidney," illustrated with motion pictures.

May meeting—The members of the dental pro-

fession of Macomb county were guests at this meeting. The program was a motion picture on "How Biological Products are Made," presented through the courtesy of the Parke-Davis company, Detroit.

June meeting—Business meeting. Dr. J. H. Montgomery of Richmond, Michigan, was elected to membership in the Society.

July, August and September—Suspension of meetings for the summer.

October meeting—Dr. George McKean of Detroit gave a talk on "Pneumonia."

November meeting—Dr. George Van Amber Brown of Highland Park, Michigan, gave an illustrated talk on "Female Pelvic Infections."

December meeting—The following were elected for the year 1929: President, Dr. A. B. Bowers, Armada; Vice President, Dr. T. P. Russell, Centreline; Secretary, Dr. J. N. Scher, Mt. Clemens; Treasurer, Dr. W. H. Norton, Mt. Clemens; Delegate to the 1929 meeting of the Michigan State Medical Society, Dr. V. Wolfson; Alternate, Dr. A. A. Thompson.

J. N. Scher, Secretary.

BERRIEN COUNTY

The Berrien County Medical Society met in Benton Harbor on November 21st at the Hotel Vincent.

Dinner was served at 6:30 to about 50 members and guests, the Society acting as host to the Tri-County Dental Society, composed of dentists from Berrien, Cass and Van Buren Counties.

Following the dinner the two societies held separate business meetings, returning to the ball room to listen to a paper on "Malignancies of the Mouth and Face."

At the business meeting of the Medical Society a nominating committee was elected consisting of Doctors Sowers, Rosenberry and Merritt, to bring in nominations for the 1929 officers at the December meeting which will be held in Niles.

The paper of the evening was to have been given by Dr. Ferris Smith of Grand Rapids. Dr. Smith, however, was unable to be present and in his place sent his associate, Dr. Mills.

Dr. Mills with the aid of a lantern, gave an excellent talk on "Malignancies of the Head," and dwelt particularly on operative procedures. The restoration of radical destructive operations as worked out by Dr. Smith is exceedingly interesting and has proven successful under his management as well as under others who have followed his procedures in plastic surgery of the face.

Although the Society was disappointed in not having Dr. Smith personally present, the pleasing

delivery and knowledge of Dr. Mills made up for his absence.

The discussion was opened by Doctors Westervelt and McDermott for the medics. Doctors Brown, Globensky and Musser discussed the paper from the viewpoint of the dentists.

The Dental Society expressed their pleasure at being invited to listen to a topic of mutual interest and the joint session was enjoyed by all present.

W. C. Ellet, Secretary.

GENESEE COUNTY

Report of the Genesee County Medical Society for the month of October:

Meeting held October 3, 1928 at Hotel Dresden.

Dr. McKenna in the chair.

Minutes of the last meeting read and approved.

Dr. M. S. Knapp and Dr. H. Cook urged the members to contribute promptly toward furnishing chairs for the auditorium.

Election of officers for 1928-1929 as follows:

President-Elect, Dr. Don Knapp; Treasurer, Dr. R. Scott; Medico-Legal Officer, Dr. C. H. O'Neil; Delegates, Dr. C. Moll, Dr. M. S. Knapp, Dr. F. Reeder; Alternate Delegates, Dr. G. Curry, Dr. J. G. R. Manwaring, Dr. W. Winchester.

Dr. Howard B. Lewis of the University of Michigan gave a talk on "Vitamines." Discussion followed. Meeting adjourned.

M. S. Chambers, Secretary.

Meeting held October 17, 1928 at Hotel Dresden.

President Benson in the chair. Minutes of the last meeting read and approved. Dr. M. S. Knapp reported on the progress of the auditorium furnishings committee.

A communication from the State Secretary concerning the organization of a Genesee County Women's Auxiliary in preparation for future legislative campaigning was read. Discussion followed. Dr. White moved that further information concerning this matter be obtained from the State Secretary. Motion seconded and passed.

Dr. L. H. Newburgh of the University of Michigan gave a talk on "The Present Day Status of Renal Function Tests." Discussion followed. Meeting adjourned.

M. S. Chambers, Secretary.

Meeting held October 25th, 1928.

At the request of the State Secretary a legislative committee was appointed by President-Elect Dr. Don Knapp as follows:

Dr. H. Cook, Chairman; Dr. C. Moll, Dr. J. G. R. Manwaring, Dr. H. Randall, Dr. W. H. Marshall.

M. S. Chambers, Secretary.

Report of the Genesee County Medical Society for the month of November:

Meeting held November 7th, 1928.

Dr. Don Knapp, President-Elect in the chair. Minutes of the last meeting read and approved.

Reply to Dr. Warnshuis, relative to Women's Auxiliary, read before the meeting. It was discussed by various members and a motion made and seconded that Mrs. Keifer come and instruct wives of members and members relative to organization.

New members applications read—Huyck, Dittich, Macksoo and Grover.

Dr. E. C. Rumer and Dr. Runyan re-instated.

Dr. L. Jones, Dr. A. McArthur and Dr. Max Burnell was appointed to report relative to a different meeting place.

Dr. Barttemeir of Detroit presented the subject, "Work of Psychiatry."

Meeting adjourned.

F. E. Reeder, Secretary, Pro-Tem.

Meeting held November 21, 1928.

President-Elect Dr. Don Knapp in the chair. Minutes of the last meeting read and approved. Dr. Jones reported for the committee appointed to investigate the advisability of having G. C. M. S. meetings at Hurley Hospital.

Dr. H. Knapp moved that this committee be discharged. Motion seconded and defeated. Dr. Max Burnell moved that future meetings be held at Hurley Hospital. Motion seconded and passed.

Dr. Randall moved that the G. C. M. S. purchase copies of the A. M. A. code of ethics and distribute one copy to each member of the Society. Motion seconded and passed.

Dr. Jones moved that the G. C. M. S. appropriate \$100 for purchase of medical books and periodicals for Hurley Hospital library for the fiscal year of 1928. Dr. Himmelberger amended this motion to read that \$200 be appropriated instead of \$100. Dr. Willoughby amended the amendment to read \$300 instead of \$200. Amended amendment revealed and defeated. Dr. Himmelbergers amendment seconded and passed. Original motion as amended seconded and passed.

Dr. T. G. Yeomans of St. Joseph, Michigan, gave a talk on "The Management of Salpingitis." Discussion followed. Meeting adjourned.

M. S. Chambers, Secretary.

GRATIOT-ISABELLA-CLARE COUNTIES

The December meeting of the Gratiot-Isabella-Clare Medical Society was held at the Park House, St. Louis, Thursday, December 13, 1928.

President Barstow called the members together with the following present: Barstow, Budge, Aldrich, DuBois, Smith, Graham and Highfield. Minutes of the last annual meeting and the November meeting were read and approved.

Secretary Highfield then gave his annual report, which stated we had held nine meetings during 1928, seven of which had been addressed by out-of-town speakers.

President Barstow then announced that nominations were in order for officers for 1929. The following were duly elected:

President, Charles F. DuBois.

Vice President, Melvin J. Budge.

Secretary-Treasurer, E. M. Highfield.

Delegate to State Society, W. E. Barstow.

Alternate to State Society, M. J. Budge.

At this time supper was announced, fourteen having supper together, two coming in after supper.

President Barstow then called on Dr. Charles F. DuBois, to read the resolutions on the deaths of Dr. J. N. Day and Dr. C. M. Denny, of which the following is a copy.

It is the desire of the Gratiot-Isabella-Clare County Medical Society, that proper records be spread upon the minutes of this meeting to permanently record the recent death of two of its members: Dr. John N. Day, age 63 years,

Alma, and Dr. Carlisle M. Denny, age 41 years, Middleton.

Dr. Day was struck by a P. M. R. R. passenger train on November 5th, while driving an automobile; a basal skull fracture resulted, and he died November 8th. He was born in Eaton county, Michigan, was a member of the first graduating class of the Alma High school, and then attended Alma College before it was taken over by the Presbyterian church. After teaching in the Blanchard schools, he studied pharmacy and was registered in 1888.

Dr. Day graduated from the Detroit College of Medicine in 1893, and practiced in Ashley, Bannister, Lake Odessa and Alma. Aside from his professional work the doctor was very active in the Masonic Lodge and the Isaac Walton League.

Dr. Denny died November 27th, following a pneumonia of two weeks' duration. He was born in Mountain Grove, Missouri, and graduated from high school in that city. He received his medical degree in 1911, from the Chicago College of Medicine and Surgery. Following this he served one year's internship at the Blodgett Memorial hospital, Grand Rapids.

Dr. Denny has always practiced at Middleton. His fraternal activities were extensive in the Masonic order.

The Society keenly feels the loss of these two members, both as to membership in this Society and in the communities where they were active.

Following this, President Barstow introduced Dr. B. W. Malfroid of Flint, who read a paper on "The Toxaemia of Pregnancy." The doctor described many of the past theories of the cause of this condition, and stated that the most acceptable explanation today was, that it was a placental poisoning frequently due to a focal infection injuring the placenta. The best treatment was prevention by having focal infection removed.

For the nausea he gives glucose, either subcutaneous or intravenous. For the convulsions, in addition to other treatment, he gives 10 c.c. of a 25 per cent solution of magnesium sulphate intravenously. This paper was discussed by nearly everyone present, all asking the doctor many questions.

A rising vote of thanks was given Dr. Malfroid, after which many gathered around to ask him more questions on obstetrical difficulties.

KALAMAZOO COUNTY

SECRETARY'S REPORT

The last regular meeting of the Academy of Medicine was held November 20th in the Academy rooms. About 40 members were present for dinner.

Meeting called to order by the President, Dr. W. E. Shackleton.

The minutes of the previous meeting as printed in the bulletin were approved.

Dr. J. B. Jackson read the resolutions drawn by his committee. It was moved that they be adopted and a copy be sent to Mrs. Harold Upjohn and

that they be printed in the bulletin next month. Seconded. Carried.

Dr. Ward Collins' resignation as the Academy's representative at the Child Welfare meetings was read and accepted. Dr. Bennet nominated Dr. L. J. Crum as the Academy's representative at these meetings. Seconded and carried.

Dr. Crane read the resolutions of the Kellogg Multilateral Peace Treaty and moved its approval by the Academy. Seconded by Dr. Stewart. A standing vote was taken and their unanimous approval was given.

An invitation from the Upjohn Company to the Academy to be their guests at the annual banquet was extended. The Academy was unanimously in favor.

The president asked for the wishes of the Academy in regard to the nominating committee. Moved by Dr. C. E. Boys that this committee be appointed by the Chair. Seconded and carried. The following members were appointed to nominate candidates for 1st Vice President, 2nd Vice President, 3rd Vice President, Treasurer, Librarian and two board of Censors; Doctors W. R. Vaughn, Chairman; G. M. Riley, D. C. Rockwell, L. E. Westcott and A. A. McNabb.

The following members were appointed on the auditing committee: Doctors R. A. Morter, Chairman; George H. Caldwell and S. U. Gregg.

The scientific program was given by Dr. D. U. Eisendrath. The subject of Cystitis was presented in a very clear, concise and definite way and illustrated by lantern slides. Dr. Eisendrath's pleasing manner, good stories and wit made this especially enjoyable as well as instructive. The discussion was general indicating much interest in this subject. We hope he comes again.

After the program the recommendations of the special committee on city clinics, which has been on the table for a few months was opened for discussion. After much discussion the following recommendations were approved by the Academy.

Classification of individuals applying for services.

- A. Permanently indigent.
- B. Temporarily indigent until given date.
- C. Worthy of care on presentation of security.
- D. All persons unworthy of free care.

It is recommended that the investigation of all cases be made by an individual, responsible to the city government, and that this investigation be assisted in every way possible by a committee of physicians appointed by The Academy of Medicine, following a plan now in operation in the city of Chicago. This official shall issue a card to each individual applying for charity.

It is recommended that an Infants Clinic be held at Gull street station once a week for Classes A. and B. and that a general educational program for mothers and babies be held at intervals of six months, and that all lay organizations be assured that the Academy of Medicine will co-operate to the fullest extent along the lines of the present pre-school clinic.

In the management of private pay patients in the contagious disease hospital, we feel that the treatment of such patients should remain in the hands of the physician sending in the case.

It is the feeling that the Public Health nurses should be warned against diagnosing and prescribing. It is recommended that in no case shall quarantine be lifted by a nurse without the sanction of the attending physician.

It is recommended that the custom henceforth

be, that the physician shall render a fee for his services for all cases whether treatment is rendered in free beds or not.

Dr. Crum moved that a committee be appointed to go to the proper authorities to see what may be done, etc. Seconded by Dr. Henwood. Carried.

PRESIDENT'S ANNUAL REPORT

The president wishes to take this opportunity to express his appreciation for the loyal support of the Academy during the past year. He realizes full well that the Society's progress and success has been due to your loyalty, and to the untiring efforts and co-operation of the officers and committees. The program and clinical program committees are to be particularly commended for the excellence of the programs. The social committee has made possible the fellowship dinners which we all so much enjoy. Other committees have been equally industrious although their work is not so spectacular.

The executive committee has seen fit to expend an unusual amount of the Society's funds for re-decorating the rooms and adding to our equipment. Most of the work is very evident and fully justifies the expenditure. In retiring from the executive office we would recommend further expenditures for the benefit of our scientific programs. A new projection lantern is badly needed in order to obtain the best results from our guests who wish to illustrate their addresses with lantern slides. A ventilating fan back of the grill over the speaker's desk would clear the atmosphere and allow the members to enjoy clearer vision as well as clearer heads.

In view of the excellent work of the legislative committee and the importance of the coming program outlined by our State Society we take the liberty of suggesting that this committee be continued with its present personnel.

Continuance of our loyalty and co-operation with the new officers will mean bigger and better meetings with prosperity for the Society and each individual member.

ANNUAL FINANCIAL REPORT OF KALAMAZOO MEDICAL ACADEMY

Dues from members.....	\$1,918.00
Refund from State for G. J. Sweetland dues.....	10.00
Surplus of dues from Russell Collier.....	2.00
Price of golf balls from W. E. Shackleton.....	6.00
Total receipts.....	\$1,936.00

DISBURSEMENTS

State Society	\$1,180.00
Guests	153.57
Bulletins	186.00
Postage and stationery.....	68.93
Telegraph and telephone.....	76.35
Light and gas.....	12.90
Flowers	35.30
Insurance	35.00
Janitor	91.50
Miscellaneous	748.56
Total disbursements.....	\$2,588.11
Cash on hand December 8, 1928.....	\$ 811.24
Total Receipts for 1928.....	1,936.00
	\$2,747.24
Total Disbursements for 1928.....	\$2,588.11
Cash on Hand December 7, 1928.....	159.13
	\$2,747.24

R. J. Hubbell.

SECRETARY'S ANNUAL REPORT

The President has been very kind to mention many of the accomplishments and activities of the Academy in his report, thereby relieving Secretary of some concentration.

The program, clinical program and social function committees, which are necessarily the power behind the throne in regard to our meetings, deserve honorable mention. Their support has always been generous and prompt and has greatly relieved many unpleasant tasks that ordinarily are bothersome to a secretary.

The members in general have given their loyal support, but, as is usual in every society of this nature, some feel their duties are done when the dues are paid. Regular attendance at the meetings will be well rewarded in good fellowship, scientific knowledge and relaxation from routine.

SAINT CLAIR COUNTY

A regular meeting of the Saint Clair County Medical Society was held at the Hotel Harrington, Port Huron, Michigan, Thursday, December 13, 1928. Supper was served to two guests and four members at 6:30 p. m. The meeting was called to order at 8:30 p. m. with the following members present: Doctors Smith, Wellman, McKenzie, H. O. Brush, DeGurse, Caster, Clancy, Thomac and Kesl. Doctors Frank MacKenzie and Harry Kirschbaum of Detroit were present as guests.

The Secretary read a communication from Dr. J. H. Burley relative to the establishment of a Tuberculosis Sanatorium in this county. A card of thanks from the family of Dr. J. H. Burley for the floral sent to the funeral of Mrs. J. H. Burley. Also a notice from Mrs. Lillian Innes, a trained nurse who wanted the Society to know that she was prepared to do hourly and obstetrical nursing.

The President appointed a Committee of Doctors Burley, Waters and DeGurse to look into the matter of a Tuberculosis Sanatorium.

The subject of recent circulars about the city relative to anti-vaccination for smallpox was brought up by Dr. H. O. Brush and remarks were made upon the subject by Doctors DeGurse, Caster and Smith and no action was proposed or taken.

The new article recently appearing in the columns of our local daily relative to a survey made in Port Huron Hospital was discussed by Doctors Clancy, Smith, Thomas, McColl, McKenzie and others and the consensus of opinion of those present was that the article might, in the end, work for the campaign of obtaining a new hospital for our community.

Dr. Frank MacKenzie of Detroit then addressed the Society upon the subject of the use of Radium in present-day medicine. "Radium," said Dr. MacKenzie, "is not a cure-all by any means, but it surely has a place in present-day treatment of certain selected conditions." The essayist stressed results obtained in several cases coming into his personal practice where at least several apparent cures and many improvements took place. Discussion by Doctors McColl, DeGurse, Caster and Smith was followed by Dr. Frank MacKenzie who closed his subject in the usual manner.

Dr. Harry Kirschbaum of Detroit addressed the Society upon the immediate repair of lacerations of the cervix, perineum and hemorrhoidectomy at the end of the third stage of labor and cited his own results in fifty cases treated in this manner. He said he believed gyno-plastic repair was feasible and in the future all cases treated in hos-

pitals for confinement would be given such operative care. Dr. Kirschbaum then proceeded, by means of lantern slides, to explain the application of Kielland forceps, in a posterior presentation with a mannikin. "I believe," said Dr. Kirschbaum, "that the Kielland forceps will accomplish anything that can be accomplished by any of the other instruments." Discussion by Doctors Mc-

Coll, H. O. Brush, DeGurse, Smith and Caster was followed by closing of the subject in the usual manner by the speaker. The President thanked both of the visitors for appearing before the Society and giving their addresses.

The meeting adjourned at 10:45 p. m.

George M. Kesl, Secretary.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

A TEXT-BOOK OF PATHOLOGY—William G. MacCallum, M. D., Professor of Pathology and Bacteriology, Johns Hopkins University. Fourth edition, thorough revised. Octavo volume of 1,177 pages with 606 original illustrations. W. B. Saunders Company, Philadelphia and London.

This is the fourth revision of this work since its publication in 1916 and it may be said to present the accepted facts of pathology as recognized today. It represents the autopsy experience of the Johns Hopkins Medical School so far as the more common diseases are concerned. The work deals with subjects that are of first hand information of the pathologist, and either gives limited space or omits entirely such subjects as immunity acid base equilibrium or cardiac arrhythmias.

No attempt, according to the author, has been made at a division into general and special pathology. The work is based on the principle that all pathological disturbances are the result of some form of injury or of the immediate or more remote reactions of the body to injury. Disease is dealt with as far as possible on the basis of the causative factor. The writer deals interestingly with what might be termed perverted physiology and of the chemical interchange in the course of disease thus making his book a valuable aid to clinical medicine. The work is profusely illustrated; a number of the illustrations are the finest specimens of the medical artist's work. Although this text book of pathology contains sixty-three chapters and over eleven hundred pages it is easy to handle owing to the superior quality of paper and binding that have reduced the bulk as compared with many other works containing such a volume of reading matter.

NEUROLOGICAL EXAMINATION—An exposition of tests with interpretation of signs and symptoms. Charles A. McKendree, M. D., Associate, Department of Neurology, College of Physicians and Surgeons, Columbia University. With a foreword by Henry Alsop Riley, M. D. Twelve months of 280 pages with 88 illustrations. W. B. Saunders Company, Philadelphia and London.

This little work is intended to familiarize the medical reader with a comprehensive form of examining the central nervous system. The various tests are described and in many instances illustrated by means of photographs. Abnormal reactions are interpreted as pathological expressions of interference with anatomical relations and physiological functions. The methods of examination as here described are those in use in the department of neurology in the College of Physicians and Surgeons, Columbia University and the Vanderbilt Clinic. The different sections include one on history, on physical examination, on general sensory examination cerebral nerves, systemic examination, skeletal system, mental status and laboratory tests. All this is followed by an interesting chapter on "Diagnostic Impressions."

REGIONAL ANESTHESIA—Gaston Labat, M. D. Clinical Professor of Surgery, University and Bellevue Hospital Medical College, New York City, Laureate of the Faculty of Sciences, University of Montpellier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia; The Mayo Foundation, University of Minnesota. With a foreword by William J. Mayo, M. D. Second Edition, Revised. Octavo of 567 pages with 367 original illustrations. W. B. Saunders Company, Philadelphia and London.

Doctor Labat's book on Regional Anesthesia is very interesting reading and covers the subject very thoroughly. Of interest, is the fact, that he definitely states that regional cannot supplant general or other forms of anesthesia. He also speaks of the type of patient both physical and mental—the type of operation—and the use of careful preparation of these patients for any operation in which they are to be conscious. It is undoubtedly true that regional anesthesia has come to stay and will in the future increase its field of usefulness. His book is easy reading material, interesting and excellently illustrated.

CONSTITUTIONAL FACTORS IN HYPERTENSIVE DISEASE

Joseph H. Barach, Pittsburgh (Journal A. M. A.), expresses the belief that a large proportion of patients showing arterial hypertension are destined to develop this condition because of an underlying hereditary tendency, and a pathologic continuity throughout their life cycle. In one group of cases in which he made an intensive study, nearly 95 per cent gave such a positive history. In a larger group, 231 cases, in which the history was obtained in a routine manner, a positive history was given by the patient in about 50 per cent. The early life history of these patients indicates that upper respiratory infections were of common occurrence and that many carried diseased tonsils into middle life. The history of patients with arterial hypertension also reveals the fact that they had suffered one of the severe acute infectious diseases. Typhoid and diphtheria were the outstanding diseases in this series. Whether the life history of these persons is read forward, from the juvenile to the senile periods, or whether their life history is read backward, from old age to early childhood, a train of events which seems to determine their whole lives in a constant and almost predestined manner is followed. The frequent infections of early childhood are determined by their lack of immunity rather than by accidental exposure to infection. In the type of individual concerned, these infections continue unabated up to the time of puberty, regardless of hygienic surroundings. With pubescence a differentiation occurs, and the symptom complex that follows is determined by sex. The female manifests the tonsil thyroid syndrome, and subsequent

anatomic, physiologic, immunologic and psychologic changes, which modify her state of health and her productivity as a woman. When involution begins, her menopausal manifestations are exaggerated and about that time hypertension is established. From then on hypertension continues to the time of decompensation. The manner and the time of her decompensation are determined by organ inferiority. In some patients this organ inferiority is the result of previous disease, but in many this organ inferiority is an inherited characteristic. In some families it causes cardiac failure, in others cerebral hemorrhage, and in still others renal failure. The male at the time of pubescence does not develop the tonsil thyroid syndrome. That is why goiter is so much less frequently recognized in the male than in the female. The male develops neurocirculatory asthenia or effort syndrome. To what extent the thyroid gland is involved in the male, at the present time, no one can affirm or deny. The inferior circulatory apparatus of these patients, the intermittent hypertension of early life and the permanent hypertension of later life, all manifest themselves in turn. Thus it is seen that the so-called essential hypertension which is supposedly of unknown origin is in fact the sequel of a train of events covering the whole life of the individual. For this the name sequelar or constitutional hypertension would be more suitable. Those who are familiar with the neurocirculatory asthenia type will realize in what manner his productivity is disturbed and altered. The productive life of the male as seen in the neurocirculatory asthenic patient is altered, just as the reproductive life in the female is altered. When senescence begins, the temporary hypertension of middle life becomes permanently established. From then onward the course of events depends on organ inferiority and environmental factors; sooner or later decompensation follows.

SUGAR SATURATED AMERICANS PRONE TO STOMACH DISEASE

Lack of vitamins and too much sugar in the diet was charged with being responsible for the large amount of stomach and intestinal diseases in this country, in a report just presented by Dr. Seale Harris of Birmingham, Ala., to the American Medical Association.

"Many sugar saturated, vitamin starved Americans, i. e., those who live largely on white flour bread, white potatoes, white rice, lean meats, sugar saturated coffee, and sugar laden desserts, with candy and soft drinks between meals, would seem to be susceptible to ulcer and other abdominal diseases in which infection plays a part," Dr. Harris declared.

Experiments have shown that animals and human beings who are not eating enough vitamins are very susceptible to all kinds of infections. Lowered resistance to infection occurs in the stomach and intestines as well as in the nose and throat. The person whose diet is lacking in vitamins may be subject to frequent colds, pneumonia and tuberculosis, or he may be subject to appendicitis, stomach ulcers, gallbladder disease or colitis.

More than one-fourth of the patients in the general hospitals of the United States are there because they have one of these stomach or intestinal diseases that are due to infection. The increased amount of abdominal diseases is paralleled by the increased sugar consumption in this country. Fifty years ago a man ate, on an average, 26 pounds of sugar a year. Now he eats 106 pounds. That is equivalent to about a teacupful

a day of sugar. White flour, potatoes and other starches have shown a corresponding increase in consumption.

Too much sugar and starch and not enough vitamins is the fault Dr. Harris finds with our national diet. He is at present studying the food habits of ulcer patients in the hope of obtaining further proof of his theory. He reported that "a very large proportion of patients with ulcer belong to the class who overindulge in carbohydrates, particularly the sugar products that are deficient in vitamins."

Ulcer patients should be fed diets rich in vitamins, in order to build up their resistance and prevent recurrences, Dr. Harris recommended. The usual diet now given patients with stomach ulcers is very low in vitamins.

FAMILY COLDS MAY BE DUE TO CARRIER

When colds "run in the family" it is no sign that the family is constitutionally subject to colds. It may be that some member of the family is acting as a carrier, just as some people are typhoid carriers, suggests Dr. P. Watson-Williams in a report to the Practitioner of observations made on ninety consecutive patients. Sometimes one child is known for starting colds among his brothers and sisters. This same child may become immune to colds himself but still harbor cold germs and be able to pass them on to others. If he grows up and has a family, he may still be starting colds in the family, although they are no longer traced to him. The reason for this may be an unsuspected infection of his nasal sinuses, the honey-comb structures back of the nose and eyes. This same infection may be the reason for some children growing a second set of adenoids, when the first ones have been removed with the tonsils, Dr. Watson-Williams thinks. Dr. Watson-Williams also reports a tendency for families that are prone to colds to have infections, in the abdomen, for instance in appendix and gall bladder. The body cells that fight disease germs are weakened by resisting the germs always present in nose and throat and become an easy prey to those germs that find their way to the abdomen.—Science Service.

WHY RHEUMATIC PEOPLE CAN FORECAST STORMS

Explanation of the fact that even when the sky is clear and only a lowered barometric pressure indicates an approaching storm, people with rheumatism "feel it in their bones", and many animals can tell in various ways that it is going to rain, is found in the result of an experiment made by Dr. C. S. Smith of the University of Chicago, which will be reported in the forthcoming issue of the American Journal of Physiology. Restlessness due to water retention under low air pressure is suggested as the cause of such premonitions of storms. In the experiment, dogs and rats were placed in a glass walled tank in which the air had a low barometric pressure. Their diet and water intake and elimination were carefully measured. Very little water was eliminated in proportion to the amount drunk or taken in food. Dr. Smith suggests that in the low barometric conditions preceding a storm, animals retain water in their tissues. Certain animals, including human beings who have rheumatism, are sensitive enough to recognize the restlessness caused by water retention. After a few experiences of storms following the sensation rheumatic persons are able to predict bad weather.—Science Service.

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MEDICAL EXPERIENCES IN HYPERTHYROIDISM

A. F. JENNINGS, M. D.

DETROIT, MICHIGAN

The following observations were made upon a series of 92 cases seen by us during the past six years. They comprise all of our patients who were considered to be in a state of thyroid hyperactivity, at least during some period of their study. Of this number, 59 were, during the period of our treatment, non-operative cases. Eight were at first apparently non-operative, but later were considered operative, and 25 were surgical from the first.

The 67 medical cases were divided into the following groups:

Colloid goiter with hyperactive symptoms 14, of whom one later became surgical; patients with goiter and hyperactive symptoms which were due to associated diseases 18, and of these two later became surgical; so-called medical hyperthyroidism 21; and neuroses 14, of whom five are included in our own surgical group, and three had been operated before coming under our care.

The colloid goiter group with hyperactive symptoms—14 patients had for presenting symptoms tachycardia, palpitation, pounding heart, dyspnea, nervousness, poor sleep, irritability, weakness, fatigue,

flushes, perspiration and loss of weight. The nervousness stands out rather prominently as a symptom, yet while they are describing it the patients present a cow-like placidity. They lack the intense restless expectant appearance of the true hyperthyroid case. Another inconsistency in the history is that of weight. Six patients stated that they had lost from 10 to 25 pounds, yet none of them appeared to be poorly nourished.

In age, the patients were mostly young. Seven were below 30, four were in the fourth decade and three were in the fifth. The blood pressures were, on the average,

* Chairman's Address, Medical Section of the Michigan State Medical Society, Detroit, September 27, 1928.

low, the four raised pressures being found in two cases having had previous operations for hyperthyroidism, one case of age 41, and one case which later developed a severe thyrotoxicosis. Five cases showed tremor, three forceful precordial activity and nine tachycardia. The basal rates, with three exceptions, were from 2 to 23 below normal. Two of the patients had raised basal rates at first—namely, 35 and 20, but these were found subnormal on subsequent examination. The patient who later became a severely toxic case showed originally a basal rate of nine plus.

Only three of the 14 patients were uncomplicated. Two had followed thyroid operation, one of these being a true exophthalmic case, the other presenting no convincing history that hyperthyroidism had ever existed. Five had definite infection in nose, throat and teeth, two had chronic appendicitis and one chronic cholecystitis. One patient, a slightly obese placid individual, with a basal rate of minus 23, had a pulse rate of 140 which was due to auricular tachycardia. Iodine was of no benefit to her, but digitalis was. One patient was completely misjudged. Considered at first to be a simple goiter with bad tonsils, she was advised to undergo a tonsillectomy. She was not seen again for six months, during which time a definite hyperthyroidism developed. She finally went to a surgeon who removed her tonsils without consideration of her medical condition, and when next seen by us she had a basal rate of plus 98, with corresponding signs. A review of her history shows that the mistake was one of lack of judgment, for all the signs of true hyperthyroidism are recorded on her chart, with the exception of the basal rate. I hope we will not make such a mistake again.

The thyroid glands in all these cases were the soft diffuse type, and what nodules were present were of the soft variety. The firm diffuse enlargement or the hard discrete nodules found in practically all of our surgical cases were not present in this group.

Five of these patients were seen only once. One became a severe thyrotoxicosis. The remaining seven have recovered—three on thyroid gland substance, three upon removal of focal infection and one, the patient with auricular tachycardia, with removal of infected tonsils and the use of digitalis.

In an endemic goiter region it is highly probable that persons having inactive goiters should suffer from the other common diseases. We had eighteen such patients in our series. Eight had upper respiratory

tract infections, two pelvic inflammatory disease, three hypertension, one mitral stenosis, one mitral stenosis and pulmonary tuberculosis and three were unclassified. The presenting symptoms included weakness, dyspnea, tachycardia, palpitation, choking, poor sleep, and loss of weight. The thyroid glands were of the soft variety, even though nodules were present, with the exception of the two patients who were operated upon. In one of these two the gland was diffuse and firm, though small, and in the other it was firmly nodular. The basal metabolic rate was in general normal or moderately elevated, while in three it was unusually high, +63, +63 and +58 being recorded and in none of these cases was true hyperthyroid disease present. Five of these patients were under and 13 over 30 years of age, the oldest being 70 and five being over 50. Seven of the patients had raised blood pressure, six of them being in persons of the cardiovascular disease age, and one, the mitral stenosis case, being unexplained. Fourteen showed tachycardia. The physical examinations showed the usual findings of their diseases. The nervousness so characteristic of the hyperthyroid patient was absent and there was no obvious emaciation.

Several cases might be cited:

A woman of 40 had for 10 months shown a typical picture of hyperthyroidism. Lugol's in full doses had been of no benefit. Focal infection had been attacked by the removal of several teeth, and she then developed acute auricular rheumatism. When she came under our care there was severe chronic tonsillitis besides her rheumatism. The basal rate was +62 and +52. After a prolonged rest in bed she made a complete recovery both of the rheumatism and of the thyroid symptoms. It is possible that she was a true hyperthyroid case that subsided coincidentally with an acute infectious disease, as sometimes happens, or her thyroid symptoms may have been purely those of infection.

Another woman, age 60, had for one month suffered from tachycardia, marked loss of weight, nervousness, dyspnea and edema. Her basal rate was +52 and +63, and the pulse 116. The blood pressure was moderately elevated, but the cardiac examination did not give us the impression that the heart had been strained. We finally found out that she had been to great exertion when a hard rain had flooded her cellar, and her symptoms followed this. On purely cardiac treatment she recovered completely and she died a year later of sarcoma of the lung.

Another woman of 39 had for six months noticed dyspnea, weakness, loss of weight and fatigue. She had spent many sleepless nights over a sick child. The pulse was 136 and the basal rate +25. She fully recovered after a nurse had been set to watch the child and a severely septic tooth had been removed.

A more difficult case was of a woman, age 70. Her symptoms were clearly cardiac, with dilated heart and moderately raised blood pressure. She had, however, a goiter of the true fetal adenoma type of moderate size, such as we believe results in hypertension and cardiac weakness. Her pulse was 104 and the basal rate +32. Because of her age, social condition, and feeble heart she was treated by rest and has improved considerably. Had she been seen earlier in life, I think surgery would have been justified. We have seen a few elderly people who have had strenuous and active lives who have carried such a goiter without harmful effects.

Two cases have proven to us that true hyperthyroidism can occur in patients suffering from other disease. Such a case occurred in the wards of Harper Hospital, a woman, age 39, having had symptoms for six years. Mitral stenosis was present and X-ray revealed a tubercular lesion, though we could not convince ourselves that it was active. For several weeks we could not feel that there was a thyroid element present, but, despite rest, her pulse remained rapid, and her basal rate was +50. She was restless, her expression was intense and anxious, she was emaciated and her goiter was of the firm nodular type. Her respiration was rapid and shallow. We finally concluded that she was a surgical case and she was greatly improved after operation.

Another such patient, a woman, age 43, had a blood pressure of 200 systolic and 100 diastolic, and a basal metabolic rate of +30. She was over energetic, restless and nervous. She showed slight exophthalmos, moist skin, tremor and flushing. Operation was finally decided upon and revealed a hyperplastic concealed goiter, and she has been much improved since then, though the blood pressure remains elevated.

Seven of these patients were lost sight of after their first visit. The remaining 11 have improved or recovered under treatment directed to their underlying condition.

Twenty-one patients were classed as true hyperthyroidism, but operation was not advised. In seven of them the diagnosis is rather dubious at this time, though it was pretty well accepted while the patients

were under observation. The group is distinguished as a whole by greater intensity of signs and symptoms. Nervousness was obvious as well as subjective and tachycardia was common.

Four adults presented a well defined syndrome of thyrotoxicosis. Three were over and one was under 30 years of age. Nervousness was apparent by a restlessness, anxious facial expression and shallow rapid respiration. Emaciation was observed in all, with weight losses up to 40 and 50 pounds. Tachycardia was persistent and severe in all and the basal rates were from +34 to +48. The thyroid glands were of the diffuse rather firm type. All of the patients are known to have recovered. One was a school teacher of 21 who had prominent symptoms. She had severe focal infection of tonsils and teeth, and was our most striking cure by this method of attack. Another, a woman of 50, recovered on rest and the third, age 35, on Lugol's.

The right to call these patients medical rather than surgical can be seriously questioned. In fact, we were on the point of advising surgery in each of them when improvement began, which went on to recovery. They all co-operated splendidly.

There were five girls, ages 14 to 16 years, who had clinical hyperthyroidism. They all gave a history of tachycardia and some loss of weight, despite a large appetite. Four were nervous, irritable, and overactive, while one showed lassitude. They were restless and apprehensive, the skin was moist and fine tremor was present. They all showed forceful cardiac activity. Blood pressure was raised in four, the highest reading being systolic 142 and diastolic 72. The basal metabolic rates did not prove satisfactory. Two were so upset they could not attempt it, and one failed her first test. Another one taken a few months later was minus 1, but this finding did not change our diagnosis. In the other two the basal rates were +30 and +29, dropping to 0 and +17 with improvement. The thyroid glands were enlarged, firm and vascular in three and firm nodular in two. They have all recovered.

All of these girls had been taking iodine salt before the onset of their symptoms. One had taken iodine by prescription previously and had become worse. We gave her 10 mgm. daily for a while, with improvement resulting. We expected an epidemic of this sort, but fortunately we have had no more such cases in the last two years. Except for the one patient, iodine was completely withdrawn and bromides were pre-

scribed. These girls were all free of focal infection.

Five patients had firm nodular goiters and all of them were over 35 years of age. None of them was the type commonly termed toxic adenoma. They complained only of vague nervous symptoms—weight loss was not noticeable and the basal rates were elevated in only two and then not above +23. Tachycardia was observed in four and slow pulse in one. Blood pressure was raised in three patients, which shows the potentiality of cardiovascular damage in cases of adenoma with mild symptoms. We believe now that adenoma cases of this sort are subjects for surgical treatment, as well as the toxic cases. While we were deliberating over their future all of these patients passed from our observation. I am sure they have not recovered and that we would have had them operated.

The remaining seven cases probably should have been included in our first two groups, though it cannot be denied that because of intensity of symptoms we considered them mild hyperthyroid cases while they were under observation. Four of the patients were of the colloid goiter type. One appears at this date more cardiac than thyroid. Another was a nurse who was operated for acute appendicitis, and then nursed her sister through a long illness of which she died. She was probably a case of simple goiter with nervous exhaustion. Her basal rate well along in her recovery was minus 1. Three other cases had complicating diseases—one two recent operations, on gastric ulcer and one cholecystitis.

To differentiate a neurosis in the presence of a goiter is a hazardous undertaking. We had 14 such cases. A nervous irritability was the outstanding feature, which took the form of vague fears, unexplained and varying symptoms, introspections, exaggerations, excessive reaction to environment, and the tendency to find something of which to complain. Three of these patients were hyperthyroid. One was a man, age 33, whose symptoms began after a terrifying industrial accident, when the grate of a live furnace on which he was working fell upon him. The element of neurosis was very prominent, but he had a firm nodular goiter and a basal rate of +30, and these features influenced us to advise surgery. This was not approved of by either his employer or himself. Another was a woman whose illness began before the days of modern thyroid surgery. Her operation was delayed overlong and cardiovascular disease supervened, of which she died.

Four of these patients were operated upon without relief. One of them was a young married woman who had had four children in rapid succession. She lived an intense social life and used tobacco, coffee and alcohol to excess. She had attacks of intense anxiety with tachycardia and dyspnea, usually at night. She was always in fear of her heart and her goiter. She was extremely vindictive over her operative failure. Her attacks persist, her basal rate is +11, and she reacts badly to thyroid medication. She is overweight and lacks the usual signs of thyroid hyperactivity.

Five other cases were not hyperthyroid. Three of them are still unclassified and another uses her goiter as a smoke screen when she becomes annoyed at her affairs, or when life otherwise becomes dull. The fifth had persistent tachycardia for years with constriction and tightness of the chest and apprehension. She had a blood pressure of 160 systolic and 110 diastolic. The basal rate was done once with the result of +100, but she was so nervous and upset that this could not be relied upon and it was not repeated. Her husband finally deserted her, leaving her with two children. Her martyrdom quite took the place of her symptoms and she has completely recovered, with, however, a moderately elevated blood pressure. I sometimes think that she may possibly have been a thyroid case after all.

The remaining two cases were operated. One, a young married woman with three children, was first seen in 1909. She was overstimulated, tired and depressed, introspective, and had chronic colitis. There was a diffuse soft thyroid enlargement, her weight fluctuated and there was tachycardia at times. Her symptoms were varied and she was seldom well. The first basal rate was done in 1921 and was +18. In 1925 secondary exophthalmic goiter occurred which was cured after operation. Her neurosis, however, remains and has been accentuated by the premature death of her husband. The second patient had a small colloid goiter about which she worried incessantly and to which she attributed many normal bodily sensations. She finally began using iodine in large amounts externally and internally, and then she developed definite hyperthyroidism which was cured by operation.

Thirty-three of the 92 cases were classed as operative. Seven of these were primary exophthalmic, five presented diffuse enlargement of the thyroid without adenoma or exophthalmus, sixteen were toxic adenomata and five were adenomata without the true thyrotoxicosis. With the excep-

tion of the five non-toxic adenomas all the cases presented definite evidence of thyrotoxicosis. Weight loss was usually obvious and definite. While nervousness was not an outstanding complaint the patients were restless, intense, and they showed a peculiar anxiety which was nevertheless without fear, a condition peculiar to the hyperthyroid patient. Respiration was frequently quick and shallow. In only four was the basal metabolic rate below +20, the records being +19, +5, +1 and +9. In the first three the basal rate was ignored in the face of clinical hyperactivity and in the fourth we allowed ourselves to be misled by the low rate with embarrassing later consequences. In only six was the age below 30, the youngest being 22, and three of these were primary exophthalmics. Four cases showed normal blood pressure, the rest showing raises of various degrees. The characteristic blood pressure of the hyperthyroid case is systolic about 140 and diastolic about 70. This was almost constant in the primary exophthalmic cases and common in the others, though the latter showed considerable variation.

One of the patients of the primary exophthalmic type, a woman of 70, had a fulminating toxic state and died of it several months after the onset of her symptoms without operation. The iodine treatment might have made operation possible. Another had her illness some years ago and was treated medically. Her disease eventually subsided but she has been an invalid ever since and at present has moderate hypertension.

Five patients showed a diffuse firm enlargement of the thyroid gland without adenoma and without exophthalmus. Only one of them presented the complete hyperthyroid syndrome. One had a basal rate of +5 but was clinically hyperactive.

In three the disease was characterized by persistent tachycardia and a raised metabolic rate. One of them had marked hypertension and restlessness. Another, a woman of about 50 had had typical exophthalmic goiter at the age of 25. This subsided without leaving any damage but recurred this year following a period of hard nervous strain and a badly infected tooth. The third, a man of 63, had for years suffered from prolonged attacks of bronchitis with the primary focus in the tonsils and maxillary antrum. A diagnosis of tuberculosis had been accepted by him. When he came under our care his symptoms were no different than he had had for years though more intense. Tachycardia and muscular weakness were his only com-

plaints. He was the most composed thyroid case I have ever seen, though this was the result of years of self-training, and there was an eager mental alertness underneath.

Seven of the toxic adenoma patients have been mentioned previously as having had various medical problems to be solved. The rest were surgical without concern to the internist. One patient, the youngest of our operative group, died of a thyroid crisis a few days after operation.

Five patients showed adenoma without the usual thyrotoxicosis state. The main symptom in four of them was nervous irritability. There was no weight loss. The pulse was not elevated and the basal rates were within normal limits. The one sign warranting operation was the presence of a hard discrete adenoma in an otherwise normal gland. Three have improved after operation, but the fourth has not done so and is also listed under neurosis. The fifth case presented auricular fibrillation only. He was a chronic alcoholic and had chronic tonsillitis and moderate hypertension. He refused operation.

Summing up we find that of 92 cases in whom hyperthyroidism was strongly suspected 33 or 36 per cent were eventually considered to be proper surgical patients and five were probably surgical, a total of 41 per cent. Fifty-four or 59 per cent could not be recommended for this procedure. It has seemed to us that because of the recognized uncertainties of the diagnosis and because of our zeal to afford early surgical relief we have stretched our diagnostic criteria to too great limits. It has become the medical custom of the day to recommend surgery in every patient who has a goiter and who complains of nervousness, tachycardia and loss of weight. We have shown in the preceding pages that many such cases are not hyperthyroid at all.

Several diagnostic points are obvious to us. The hyperthyroid patient does not complain much of nervousness. She shows however, a continued mental and physical restlessness and presents an anxious, intense yet smiling countenance. The nervousness that she may have does not seem to cause her much concern. When the patient starts out to tell the physician how nervous she is and especially if this nervousness leads to introspections, anxieties and fault finding we should strongly suspect some other condition. The hyperthyroid shows weight loss by emaciation while the non-toxic case usually is well nourished even though her story is to the contrary. The respiration is often rapid,

shallow and thoracic in type in the toxic case, slower and less obvious in the non-toxic one. The hyperactive goiter is usually accompanied by a slight rise of the systolic pressure with a normal or subnormal diastolic pressure except, of course, when arterial degeneration has begun. The goiter patient below 30 years of age is seldom hyperthyroid, the patient above that age frequently is. All of our operative cases showed either a firm diffuse or a hard nodular goiter, the non-operative cases being of the softer type. A hard discrete nodular adenoma is almost always indication for surgery in persons past the age of 30. The tachycardia to be of significance must be persistent on repeated examinations or it must be present while the patient is at rest and free from nervous stimulation.

The basal metabolic rate has the same significance in this disease as any other instrument of precision. It is usually raised on several tests in the hyperthyroid case while in the sub-thyroid patient it is below normal. In four cases that were not thyrotoxicosis the rate was persistently high while in five others that were clinically hyperactive it was low. In one of the latter cases the rate misled us into putting off surgery until a severe toxicosis appeared. We are forced to accept the basal rate as a very important sign, yet one to be ignored in the face of definite clinical evidence to the contrary. The neuroses, the acute infectious diseases and some chronic diseases may result in a high rate.

Some of the cases did not present the complete clinical syndrome of thyrotoxicosis. In these any one of the classical signs, if persistent and associated with tachycardia and a raised basal rate, will establish the diagnosis.

It is our opinion that the most important medical problem in the care of goiter patients today is that of diagnosis. The tremendous advance in surgical technic that has been made in the last few years renders this point doubly important. In a district where goiter is endemic many complications arise in each individual patient, which can be solved only by the most painstaking study and thorough examination. Definite standards for diagnosis must be recognized in this as in any other disease, and when these cannot be clearly demonstrated the patient and physician should be content with whatever period of observation may be necessary.

We have not used iodine as a medical treatment, except in one case which, fortunately, recovered. When the iodine treatment of goiter was revived several

years ago one of our patients died of a fulminating thyrotoxicosis after taking it. Another patient developed a toxic from an apparently simple goiter after taking Lugol's for some months. These experiences did not encourage us. Besides these, eight of our medical cases and five of our surgical ones had taken iodine by prescription before coming under our observation. It did not seem to have influenced the symptoms one way or the other.

When the use of iodine salt became general in this state it was natural that certain hyperthyroid patients gave the story of using it before the onset of their symptoms. While this story was common a few years ago it is not so apparent at the present time. While we have no reason at present to blame the salt for our hyperthyroid cases, it is certain that this salt does not prevent hyperthyroidism, for many of our cases have developed this disease while taking it. It has been quite well proven in this state that the use of about 400 mgm. of iodine a year has materially reduced the incidence of simple goiter in school children. It will be interesting to see what the hyperthyroid rate will be when these children grow up.

Fifty-six per cent of the whole group showed evidence of chronic focal infection. The greatest number of these were infections of the tonsils and teeth, with a few each of nasal accessory sinus, ear, gall bladder, appendix and pelvic organ infections. The difference in percentage of this complication in operative and non-operative cases was very slight, 54 in the former and 58 in the latter. An analysis of the separate sub-groups shows, however, striking differences. Chronic infection was very common (75 per cent of the cases) in those patients not clearly hyperthyroid and very uncommon (33 per cent) in the neuroses. The percentage was 49 in the non-operative hyperthyroid cases. Of the surgical cases, chronic infection was fairly common in the adenomatous goiters and the hyperplastic thyroids—namely, 63 and 60 per cent, but rare in the primary exophthalmics. In the latter class only one case is recorded and that is questionable.

Distinct activity of the local infection immediately preceded the onset of the hyperthyroid symptoms in 14 cases—seven operative and seven non-operative. Twelve patients in the medical group were apparently cured by surgical removal of the local infection, while in six cases this procedure was without value. Removal of the focal infection was attempted as a therapeutic measure in eight of the surgical cases without benefit. It was evident that this

procedure was of value only in the borderline and questionable cases and that it had practically no influence in the fully developed hyperthyroid patient. The one exception to this statement was a young school teacher of 23, who presented the complete thyrotoxicosis syndrome with extensive and severe infection of teeth and tonsils. She eventually recovered completely when these had been attended to.

Two cases did badly on this treatment. One was a woman of 47 who had several teeth extracted and then neglected her medical care for over a year. When she returned to us her condition was considerably worse. The other was a young woman in whom we made a diagnosis of simple goiter on the basis of a metabolic rate of +9, though she had all the clinical signs of hyperthyroidism. Six months later, when her symptoms had become much worse, she went directly to a surgeon who removed her tonsils. After this she became desperately sick and had to have an im-

mediate thyroidectomy. The bad outcome in these two cases resulted from lack of co-operation on the part of the patients and would not have occurred had they been consistent in their medical attendance.

The fact the 52 of these 92 patients showed focal infection and that in 14 of them the infection immediately preceded the thyroid symptoms, makes us believe that in the simple or smaller adenomatous goiters chronic infection is one factor that may bring on hyperactivity. While we believe that removal of this infection is of certain curative value in the borderline cases, it is not of benefit in the fully developed ones. The search for such foci should be as much a part of the medical examination of the goiter patient as is the basal metabolic rate. If any focus is discovered it should be removed while the goiter is inactive. If the goiter is hyperactive, proper thyroidectomy should be done and after that all areas of infection should be eradicated at the earliest possible moment.

NOBEL PRIZE AWARD MAY START CONTROVERSY

"Synthetic cod liver oil", stuff that builds bones and prevents the childhood disease of rickets without the unpleasant taste of the fish oil, was recognized when the 1928 Nobel Prize for chemistry was awarded to Dr. Adolf Windaus of Goettingen, Germany. This is the first time that the Nobel Prize Committee has recognized any of the scientific work done on the problems of human nutrition. The work for which Dr. Windaus received the prize was the successful repetition of experiments proving that ultraviolet light, either in the sunlight or artificially produced, will activate the chemical called ergosterol and confer on it antirachitic properties. According to information available here the experiments were originally performed by Prof. George Barger of the University of Edinburgh. Dr. Windaus was so impressed by Dr. Barger's original results that he asked permission to collaborate with Barger in subsequent work on the problem. Windaus himself had been experimenting along similar lines without achieving definite results.

A scientific controversy may arise from this Nobel prize award since priority honors and patent rights are involved in the situation. While the prize was awarded to Dr. Windaus, the subject of the antirachitic properties of foods has engaged the attention of scientific investigators both in this country and Europe for many years. The work along these lines began when Dr. E. V. McCollum and his associates at the Johns Hopkins University found that a substance, known as vitamin D and found in cod liver oil and to a lesser extent in other fats, has the power of preventing rickets. These scientists also were the first to find that irradiating animals by exposing them to ultraviolet rays would keep the animals from having rickets even if the antirachitic vitamin D was not in their diet.

The next step was taken by Prof. Harry Steenbock of the University of Wisconsin who instead of irradiating animals tried irradiating their food.

He worked with a mixture of foods and found that irradiation gave the foods the antirachitic power. Commercial production of irradiated foods is now under the Steenbock patent. Dr. Alfred E. Hess of Columbia University irradiated the different classes of foods separately and found that the antirachitic substance was contained in fats. He and everyone else believed for some time that it was the cholesterol of fats that was the antirachitic substance.

Then in July, 1926, Dr. Barger and his associates in England announced that pure cholesterol cannot be activated by ultraviolet rays, but that irradiation does activate ergosterol which is found as an impurity in ordinary cholesterol not purified by a special process. They believed ergosterol had the antirachitic property. Dr. Windaus repeated their experiments, and again tested cholesterol which had been specially purified. He proved definitely that it is ergosterol and not cholesterol which is activated by exposure to ultraviolet light. Dr. Barger and his associate, Dr. T. A. Webster, have also proved by experiments with animals that this activated ergosterol can prevent rickets.—Science Service.

PURE SCIENCE WINS PRIZE AWARD FOR GERMAN

Pure science scored over practical and applied science once more. The award of the Nobel Prize for chemistry for 1927 to Prof. Heinrich Wieland of Munich, Germany, is in recognition of experiments on the highly complex compounds known as the bile acids. Dr. Wieland has discovered the structure of the substance which gives bile its color, and has found the relation between this compound and chlorophyll, the coloring matter of green leaves, and hemoglobin, the coloring matter of blood. His work has no medical or practical significance at present and is of interest solely in the field of chemistry.—Science Service.

ENDOCRINAL DISTURBANCES OF EMOTIONAL ORIGIN*

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The subject of endocrine disturbance of emotional origin involves not only a study of the changes in the endocrine secretions, but also consideration of what is really meant when we speak of "emotion." It is this latter aspect of the situation that seems to be more or less neglected by the physician as well as by the endocrinologist.

There is practically no doubt that disturbances of secretion of endocrine glands should be listed among the phenomena of emotion and the evidence to this effect may be grouped in three main divisions. First: By analogy with the emotional effect on glandular and other secretions where this effect is easily observed and a matter of common knowledge as, for instance, the lachrymal gland, the salivary gland or the kidney. Second: Clinicians have repeatedly observed and recorded that phenomena that we commonly ascribe to secretion of certain ductless glands, such as menstruation and basal metabolism may be decidedly influenced by emotion. Third: The experimental evidence of Cannon and others that certain emotional states such as rage and fear in animals are accompanied by an increased amount in the blood of certain ductless gland secretions, notably adrenalin.

The experiments of Cannon offer the most direct evidence of a relation between ductless gland secretion and other phenomena of emotion but to me, their importance is increased by certain inferences that we may make that are of clinical value. The first of these is that the reaction of the gland, i. e., stimulation or inhibition is in the direction of greatest biological usefulness. That is to say, the direction is a fixed factor. The increased amount of adrenalin prepares the animal for fighting or for flight in the presence of danger. On the same basis, we would infer that a similar stimulus would probably inhibit ovarian secretion and also salivary secretion.

Another important clinical aspect of these experiments is connected with the so-called essential hypertension. In a recent review of the subject by Mosenthal (J. A. M. A. 91, 698) it is said that it is a disease of unknown etiology characterized by a persistent and increasing elevation of both systolic and diastolic blood pressure. This author says "the best available means at

the present moment to reduce the blood pressure in essential hypertension is to obtain nervous relaxation in the patient." The relation of the condition to emotional stress is also emphasized by others but without going further into the mechanism involved. It seems to me that this experimental work shows that there is injected constantly into the blood a blood pressure raising secretion during emotional stresses and this is the real cause of the hypertension. If the adrenal is inadequate to the situation, we arrive eventually at an adrenal exhaustion and a neurasthenoid condition with a relatively low blood pressure.

Practically every physician has noted the occurrence of cases of suppression of menstruation under emotional stress and has ascribed them to some disturbance in ovarian secretion. Two cases of this kind that I have seen illustrate important points in this connection. One was a girl of about 19 who began menstruating at 13 and menstruated normally for about two years. Then her mother died suddenly. She said that it was a great shock to her and menstruation stopped from then on. When examined she was found to be in apparently good general health. There were no signs of any disease of the nervous system and no evidence of any other endocrine disturbance. The gynecologist reported that the uterus was infantile but other gynecological findings were negative. While taking ovarian and pituitary extract she began having regular menstruation periods. She continued for about six months and then stopped taking it whereupon the periods also stopped. When she resumed she again had menstrual periods. The case seems to show that the effect of the emotion had persisted and would persist in spite of having normal periods for an interval of six months. No psychological analysis of this case was attempted. In a second case the patient was about 23 years old. Menstruation began at 14 but stopped at about 16 following the death of her mother. This patient was in fairly

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good general health with no organic nervous disease and no other endocrine disorder. The gynecologic examination was negative except for a vaginismus. In this case a psychoanalysis was made but no endocrine therapy was given. Although her mental conflict began with her mother's death it by no means ended there and the effect persisted. The result in this case was that the patient began to menstruate and has since continued to do so. One might infer that in this case an inhibitory effect had been removed.

Many authors have called attention to the importance of emotional factors in the cause of Grave's disease but without following up the idea when discussing the pathology or therapeutics. The best surgeons in dealing with these patients take elaborate precautions to avoid emotional stress connected with their operations but nevertheless they operate presumably on the theory that no matter what may have been the cause, the only effective treatment is the removal or rendering functionless of a part of the gland. This may be true in some cases, especially those of long standing, but I am convinced that in some cases that I have seen with all the symptoms of Grave's disease, including increased basal metabolism and other laboratory findings, the condition has been completely and permanently relieved by the relief of some repressed mental conflict (Vide, Newburgh and Camp). In addition to these full blown cases, so to speak, I have seen a considerable number of patients who have had many of the symptoms of Grave's disease associated with other symptoms of emotional origin, who were relieved by psychotherapeutic measures.

If we study the effect of emotion on other glands we note at once that there is considerable individual variation. One person sheds tears readily and copiously, another rarely, if at all. It seems to me quite correct to suppose that similar individual variations occur in connection with the endocrine glands and that under equal emotional stress one person might develop a hyperthyroidism, whereas another would not. In connection with these individual variations we must also consider the effects of "conditioning" in the Pavlov sense. This factor of conditioning would have a still greater influence in creating the emotional substrate—the conflict of ideas. I am highly critical of certain studies concerning the effects of emotion that ignore this factor. In one instance, the investigator measured the basal metabolism in individuals about to have surgical operations

and found that in some cases it was increased but not so in others. He, therefore, inferred that basal metabolism was not regularly increased by fear. He assumed that all of his patients feared the operation. Such an assumption is certainly not justified. I admit that I would fear an operation but I can easily imagine that if I were seriously ill I would welcome it gladly with the hope of a cure. One is reminded of the seasick passenger who at first feared that the ship would sink—later, he was afraid it wouldn't.

One of the big difficulties of our problem is in understanding what is really meant when we speak of emotion. Frequently the word is used in the same sense as feeling. If we wish to make scientific progress we must have an accurate definite and I suggest that the best one is that given by Janet—"When the organism appreciates the necessity for adapting itself to an environment and at the same time perceives that it cannot adapt itself, then there results a series of phenomena that taken collectively we speak of as an emotion." A shorter definition with the same meaning would be:—The mental and physical phenomena accompanying a conflict of ideas. Since ideas are necessary, we find emotional disturbances more frequently in educated individuals. Such mental conflicts are intensely disagreeable to the consciousness of the individual and his natural tendency as well as the advice of his friends and it may be also his physician, is to put it out of his mind. In so doing he thrusts it from consciousness but if there is a real necessity for an adaptation, merely refusing to remain aware of it does not alter its effects. He then has what we may properly call an anxiety neurosis in that he has the phenomena of anxiety or fear without being aware of their origin. Under such circumstances anxiety phenomena may last indefinitely. Such patients will say and correctly that, so far as they are aware, they have no worry or fear. It is only after the patient has been psychologically analyzed that one can trace the connection between the mental conflict and the symptoms, and it is only then that one has a chance to help the patient to resolve his conflict.

In summary, the points that I wish to emphasize are:

Emotion, scientifically considered, is a series of mental and physical phenomena, the result of a conflict of ideas. Such conflicts occur only when the organism is not adapted or adaptable to its environment and appreciates this fact.

Among the phenomena observed are

changes in glandular secretions, especially the ductless glands.

Emotion stimulates secretion in some glands and inhibits it in others. The direction of the effect is, normally, a constant one in man and the same findings apply to animals.

The quantitative effect of emotion on secretion differs widely in different individuals and is also different in animals. This is most likely due to congenital peculiarities of the individual and is not due to difference in the cause of the emotion.

We have no reliable method of measuring the intensity of emotion. Experi-

mental situations designed to test emotional response give unreliable results because they cannot allow for variations in the training of individuals.

Emotional affects persist because of the persistence of the mental conflict even though the patient is not aware of it and will deny its existence until he is reminded.

The presence of these subconscious mental conflicts explains the persistent disturbance of endocrine secretion of emotional origin. Such disturbances may last indefinitely and may be the cause of secondary pathologic changes in other organs.

ENDOCRINOLOGY AS A BRANCH OF INTERNAL MEDICINE*

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Whenever anyone is following a new trail through the wilderness it is advisable to stop occasionally, look at the sun and other well known landmarks, and make certain that he is actually making progress and not wandering in circles. This seems to be an opportune time for such a pause. If we admit that endocrinology is a branch of internal medicine we should be able to apply the same principles of investigation, and the same mode of thinking to the new subject. A great deal of work in the past has been wasted because of the failure to follow these principles.

In the early days when these collections of glandular cells without obvious outlets into the rest of the body were first shown to have important physiological functions, it seemed only proper to attempt to use the dried glands or various extracts of them to relieve human ills. The manufacturing chemists were more than willing to supply the material to use. In a short time there were available hundreds of glandular preparations, each of which was pushed by energetic salesmen or detail men with astonishing accounts of the results to be expected from their use. The indications for using them covered every disease known to medical men, from pneumonia to cancer. Then the commercial possibilities of "pluri-glandular" therapy were discovered and it became possible to buy mixtures of all or any of the glands in any proportion desired.

The idea of a deficient activity of one of these little known bodies as a cause of illness and the hope of relieving the illness by feeding the gland at fault is a peculiarly enticing one. A wave of interest in gland-

dular treatment swept over the medical world and I venture to say that every doctor who was practicing at that time had his fling at glandular therapy.

The results on the whole were extremely disappointing. When the factors of suggestion and of the natural tendency of the body to recovery were eliminated it became apparent to thoughtful men that the treatment had been worthless. There was an occasional case in which, however, there was unmistakable evidence of benefit from glandular treatment.

Let us try to analyze this period in endocrine thought and determine, if possible, the factors of importance. To do this properly we must think in terms of internal medicine and consider the problem as any other medical problem. In general the study of a newly discovered medical disease starts with the collection of a series of sick individuals presenting certain similar symptoms or physical signs. Some of these die or are operated upon and the pathologist has an opportunity to describe changes in structure of the parts involved. The physiologist, the bacteriologist, the chemist are called into consultation, and a complete story of the etiology, abnormal physiology, defense mechanisms, course of the disease is built up. The clinician, with this new information at

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hand, is able to recognize the disease in its earlier and less severe forms. He comes to recognize diagnostic signs and symptoms which were not previously known to be associated with this condition. Finally, and as the last link in the chain of knowledge, the rational therapy is brought forward and applied to the disease. The story of diabetes mellitus is an example of this sort of medical research. You will note that in the early days of endocrinology the process was exactly reversed. We started with a new method of therapy and tried it on everything we did not understand in the hope that it might do some good.

A second cause of failure lay in the materials used. In internal medicine any drug, to be acceptable, must produce a certain physiological reaction if given in adequate dosage. The clinical dose is that amount which will produce the physiological effect desired. Less than that amount cannot be expected to benefit the patient. This same criterion should be applied to endocrine therapy, but was it? No. We were advised by the manufacturing chemist that five grains of ovarian substance should be used, or that one-tenth grain of parathyroid substance should be used. Why? Probably because there was a large available supply of ovaries, but parathyroids were hard to find. No one had any conception of the amount of any gland substance necessary to produce a physiologic effect, nor, indeed, did anyone have any idea as to the physiologic effect to be expected. Is it any wonder that endocrinology fell into disrepute? Or that anyone admitting the use of glandular products was considered on a level with the chiropractor?

Good internal medicine demands first and foremost a diagnosis. This is arrived at by a consideration of the symptoms of the present illness, the past and family history, the physical signs, and the pertinent laboratory work. It may be possible to make a tentative diagnosis without this complete program, but only when the disease is so thoroughly understood that certain features have been found to be pathognomonic. How much more important is it to completely study a case in a new field, involving dysfunction in structures concerning which we have so much to learn?

But what was our procedure? We treated symptoms. If a woman did not menstruate, we gave her ovarian substance. If she menstruated—fine. If she

did not—glandular therapy was the bunk. If the blood pressure was low we gave suprarenal treatment. When the pressure did not rise we said that suprarenal treatment was useless. But the Mayo clinic has shown that in proven cases of Addison's disease sufficiently large doses of suprarenal substance are effective, although it is obviously impossible to check the tuberculosis which is destroying the gland.

I wish to emphasize the importance of physical signs. No one would consider that he were justified in treating heart disease without examination. The recognition of the dyspnea, edema, venous engorgement, of heart failure, is part of the physical examination, although these signs are often so obvious that we recognize them without conscious effort. But do we look for physical signs when we consider an endocrine problem? Do endocrine cases have physical signs? Are they definite? Is it possible to make a diagnosis on physical signs alone? Does the presence of certain signs always accompany certain symptoms? What are the physical signs of ovarian deficiency, for instance? In modern medicine we frequently turn to the laboratory or X-ray for assistance in making or confirmation of a diagnosis. In the beginning, laboratory data were frequently a source of error because of lack of knowledge of factors influencing the result. Indeed, it may be said that today if the laboratory and the clinical findings do not agree, the laboratory is probably wrong, for example in the Wassermann test. That does not lessen our use of the laboratory, however, but should stimulate us to determine the reason for the errors.

In recent years laboratory studies have rightly come to play an increasingly important part in endocrine diagnosis. As each new test has been discovered it has been found that no one of them is absolutely diagnostic. Even the basal metabolism test may be misleading, as shown by Cushing in his studies of pituitary disturbance. As time goes on, however, we will learn more concerning the interpretation of abnormal laboratory findings and will be able to apply this knowledge to endocrine diagnosis.

For the purpose of my own study I have laid down certain principles which I believe apply just as certainly to endocrinology as they do to internal medicine as a whole. They are:

1. Any deficiency or excess of function of a given gland will produce physical changes if of sufficient severity and duration.
2. The frequent occurrence of a certain symp-

tom in conjunction with physical changes known to be due to dysfunction of a certain gland is presumptive evidence of a causal relationship.

3. The regular relief of such symptoms by treatment with that gland is presumptive evidence of the correctness of the diagnosis and of the potency of the preparation used.

4. Alteration of the observed physical changes by continued treatment is absolute evidence of the above.

5. Any potent endocrine product must be capable of producing a certain characteristic physiologic effect when given to a normal person in adequate dosage.

6. An increased tolerance to a certain gland product is presumptive evidence of a deficiency in that gland. If the use of this product is followed by relief of symptoms the evidence is absolute.

7. The proper therapeutic dose of any gland product is the amount necessary to produce its characteristic effect in the given patient.

8. The return of a patient's tolerance to a certain gland product to normal is evidence of a return to normal of the function of that gland.

LINES OF INVESTIGATION

Having looked over our back trail, let us look forward. There are three lines of investigation that seem most important at this time. First, we need more potent materials with which to work. Our knowledge of thyroid disturbance has outstripped that of the other glands. Why? Because the active principle of the thyroid is relatively stable, is usually absorbed when given by mouth, and has been available to use for years in active form. We have had the privilege of using this material as a therapeutic test in doubtful cases and that alone has tremendously increased our knowledge, particularly of minor insufficiencies. Within the last few years we have been given a potent parathyroid extract, one of the ovarian hormones in a quantitatively standardized solution, two separate hormones from the posterior lobes of the pituitary gland, and insulin. With the discovery of each of these a new field for investigation and for therapy has been opened.

We need more potent materials for use by mouth. At present there are two methods of dessication in general use. The first is the use of a solvent which takes out both water and lipoids. Unfortunately, this method, while giving an excellent product from the pharmaceutical standpoint, effectually removes the activity from most of the glands. The other method is the dessication of the ground gland by vacuum or by moving warm air. This method is unsatisfactory, however, because an oily film is formed over the surface of the material which so interferes with evaporation that autolysis and bacterial action materially decrease the potency of the fin-

ished product. I have been using a method of dessication which permits of the rapid drying of the ground material without the loss of lipoids. This material in my hands has given definite evidence of potency in reasonable doses.

LABORATORY STUDY

The second field for investigation is in the laboratory study of these cases. In the past it has been difficult to interpret properly the findings obtained because of our inability to make a definite endocrine diagnosis. With added knowledge we expect to be able to use the laboratory more frequently and more effectually.

CLINICAL INVESTIGATION

The third and most important field for study is in the realm of the clinician. Contrary to the general opinion endocrine cases are not rare. I will admit that the severe disturbances are uncommon. We do not often see Acromegaly, Addison's disease, severe myxedema, etc. But lesser degrees of endocrine disturbance are common, and are usually not recognized. I venture to say that a majority of the patients who have been going from one doctor to another for years without even reaching the dignity of a diagnosis except perhaps a neurosis, have an endocrine disturbance. I believe that today it is possible to correctly diagnose the great majority of these cases. I know that symptomatic relief is possible in a high percentage of cases seen. The clinician has an opportunity not only to give relief to the particular patient, but also to increase our knowledge of the frequency, symptomatology, physical signs, and therapy of these conditions. He will succeed in doing so only when he adopts a method of study which will enable him to make a definite diagnosis, and a method of treatment which will supply to the patient an adequate amount of a potent product.

Case 1—Miss E. F., age 34. Complaint, headache. Present illness—For two years following a severe vaccinal reaction the patient has had frequent attacks of agonizing hemicrania, disturbances in vision, frequent "head colds", and a gain of 40 pounds in weight. Correction of a refractive error and treatment of an infected sinus had not relieved the symptoms. The menses became very short and scant and the patient noted an increase of the nasal discharge and headache preceding this event. Sensitization tests showed an allergic reaction to bacteria, but vaccine therapy gave no relief. Her strength and endurance have progressively decreased.

Past History—Patient was thin and frail during girlhood, but no organic disease was ever found. Menses began at fifteen. One sister has hay fever.

Examination—The patient is 60½ inches tall, with small hands and feet. The skeleton is uniformly delicate and frail. The facies appear much younger than the patient's age. The breasts are poorly developed. The eyebrows are thin, scalp hair thin, lifeless, excessively oily. There is a moderate excess of downy hair over the cheeks and upper lip. There is a moderate obesity (weight 154, calculated normal 118), localized over the deltoids, abdomen, buttocks, and cervical regions.

Special Examinations—The urine was normal, the blood normal except for a relative lymphocytosis, the basal rate was minus 11 per cent, the visual fields showed a moderate symmetrical contraction of both form fields. The color fields were reduced to about one-half of normal. X-ray of the skull showed poor bony development and a small sella turcia, but no evidence of erosion.

Diagnosis—Long standing anterior lobe pituitary insufficiency with more recent posterior lobe failure. Vasomotor rhinitis. Chronic maxillary sinusitis.

Course and Treatment—The patient was given 15 grains of whole pituitary substance daily, by mouth. There was immediate relief of the headache and nasal discharge. In the course of a few weeks the patient noted a definite increase in energy and ambition and the return of her sense of well being. Her vision improved and there was a gradual loss of weight from the areas of excess. The menstrual flow did not increase. As a therapeutic test the patient was given, without her knowledge, a pituitary preparation known to be lacking in activity, with a return of all the previous symptoms.

At present the patient weighs 115 pounds, feels well except for mild headache and lassitude before the menstrual period. She continues to take 15 grains of pituitary substance as she has found that the headaches recur if the dose is reduced. The visual fields are now entirely normal.

Comment—This case illustrates our ability to relieve the symptoms in a case of pituitary insufficiency, without evidence of any increased function by the gland itself.

Case 2—Miss D. B., age 30. **Complaint**—Sense of pressure in the throat, fatigue.

Present Illness—Two years ago, following a period of excessive emotional stress, the patient noted the frequent periodic occurrence of a sense of constriction in the throat, associated with flushing, sense of anxiety, numbness and coldness of the extremities, irritability, and depression. A partial thyroidectomy was done three months later with the removal of "multiple small colloid adenomata." A basal metabolism test was not done.

Past History—Patient enjoyed average health during girlhood. At thirteen years there was a period of excessive growth followed by the onset of menstruation at fifteen. Periods were irregular with an interval of six to eight weeks, profuse and painful until the age of twenty-one, when they became regular but very scant. She has always been emotionally unstable, easily depressed, and irritable, particularly before the menstrual period.

Examination—The patient presents a typical eunochoic build, 69½ inches in height, with marked excess in the length of the long bones. The shoulders are narrow, waist narrow, hips broad, masculine type of muscular development. Breasts are very flat. There is no excess fat. The under jaw is short, the teeth show excessive decay. The thyroid cannot be felt.

Special Examination—The temperature is 97, blood pressure 116/80, pulse 64, R. B. C. 3,750,000, hgb 70%, B. M. R., minus 16%. Urine normal.

Diagnosis—Long standing hypogonadism. Post-operative thyroid insufficiency.

Course and Treatment—The patient was given sufficient thyroid extract to bring her basal metabolism to normal. The fatigability was partially relieved, but sense of constriction in the throat, depression, and emotional distress were aggravated. The patient was then given 20 grains of whole ovary by mouth in addition to the thyroid with the complete relief of all symptoms. The quantity of menstrual flow has practically doubled.

Comment—A thyroidectomy was done for relief of the symptoms of hypogonadism with the addition of hypothyroidism to the previous picture. Thyroid therapy alone did not relieve the symptoms, but combined therapy has afforded symptomatic relief.

Case 3—Mrs. B. H., age 37.

Complaint—Dizziness.

Present Illness—During her first pregnancy three years ago the patient developed the classic preeclamptic syndrome, terminated by caesarean section. The pregnancy had been characterized by continuous vomiting. After the section there developed dizziness, nervousness, tachycardia of moderate degree lasting three months. Then followed a marked gain in weight. A second pregnancy, with similar symptoms, was also terminated by section nine months ago. The previous symptoms of dizziness, nervousness and tachycardia were again noted, but in much more severe form. Any sudden movement, or lying on right side produced extreme dizziness associated with nausea. Marked excess of fat about the shoulders, bust, abdomen and buttocks appeared.

Past History—The patient's mother had had eclamptic convulsions with each pregnancy. Late in life she had developed typical acromegalic changes in the appearance of her face and hands. The patient had always been small and delicate in body structure until tonsillectomy 11 years ago, at which time she began to gain in weight and develop more mature proportions. Menses began at 11½, 30 day interval, 7 days duration, no symptoms.

Examination—The pulse ranged from 90 to 125. The blood pressure averaged 160/90. The hands were warm, moist, and fine rapid tremor was present. The face was flushed. The thyroid gland was slightly enlarged, firm, not pulsating (Lugols' solution had been used).

Special Examination—X-ray of the sella turcia showed definite enlargement and erosion. The basal metabolism had been x 43 and x 32 before and after taking Lugols' solution.

Diagnosis—Inherited Pituitary disease, overactive anterior lobe, under active posterior lobe. ? Neoplasm. Eclampsia probably on a pituitary basis.

Course and Treatment—The patient was unable to take anterior lobe substance as two grains aggravated the symptoms. She tolerated 20 minims of surgical pituitrin, with immediate relief of the dizziness. After 20 injections, given every second day, her tolerance had fallen to six minims and the symptoms had entirely abated. No change occurred in the fat distribution. Symptoms have not recurred.

Comment—The occurrence of eclampsia with each pregnancy in a mother and daughter, both of whom present objective evidence of pituitary abnormality, is suggestive of an etiological re-

lationship. The fall of tolerance to pituitrin parallel to the relief of symptoms, is evidence of a return to normal of the function of the posterior lobe.

Case 4—Mrs. G. C., age 53.

Complaint—Weakness and swelling of the feet.

Present Illness—Fifteen years ago the patient noticed gain of weight, swelling of the lower legs, lack of strength and endurance, and increasing fatigue. She was told she had "kidney trouble" and was given digitalis in small doses. Her condition gradually failed until for the past year she had been practically bedridden. There has been marked loss of memory and mental activity, excessive drowsiness, attacks of partial blindness, and increasing swelling of the face, hands, and dependent parts. Dyspnea has been increasingly severe.

Past History—No data of importance.

Examination—Patient is in extreme distress from dyspnea. There is extreme pitting edema extending to the mid thighs. The hands are swollen to twice normal size. The face is puffy, the eyes nearly closed. Extreme pallor of the mucus membranes. Hair dry and very thin. Skin dry and eczematous. Left border of the heart in the anterior axillary line, sounds of very poor quality.

Special Examination—R. B. C., 1,180,000; Hgb., 33%; N. P. N., .032 mg.; Glucose, .095 mg.; B. M. R., minus 37%; Urine, normal; P.S.p., 18% in two hours 10 min., Temp., 95; Pulse, 100; B. P. 84/60.

Diagnosis—Severe myxedema with secondary myocardial and kidney failure.

Course and Treatment—No change followed the administration of six grains of Thyroid extract for a period of two weeks. Patient was given the calculated dose of thyroxin by mouth with spectacular results. In 19 days there was a loss of 42 pounds (diuresis), and increase of 880,000 in the red count. The P. S. P. excretion rose to 40%, pulse fell to 90, B. P. rose to 110/60, temperature to 98.7, and B. M. R. to $\times 4\%$. Two months later the red count was $2\frac{1}{4}$ million, the B. M. R. $\times 5\%$. The patient was then changed to thyroid extract, requiring 5 grains daily. Three months later $2\frac{1}{2}$ grains held the metabolism normal. One year later $1\frac{1}{2}$ grains was sufficient, and the patient is now in balance with one grain of thyroid daily. The heart borders have returned to normal limits, her strength and endurance are excellent and she considers herself well.

Comment—A severe myxedema gave the appearance of terminal stages of a nephrosis. Treatment with adequate amount of thyroid extract restored kidney function, red blood cells, heart muscle, etc., to normal. Continued treatment has resulted in an improvement in the function of the patient's thyroid gland as shown by progressive decrease in amount of thyroid substance necessary to hold her in balance.

NOTE: Dr. Richard McKean's paper on "Hypothyroidism Without Myxoedema; Its Recognition and Treatment," belongs to this symposium. It will be found on page 128 of this number of the Journal M. S. M. S. It was received too late for insertion in its proper sequence but should be read before the discussions which here follow.—Editor.

DISCUSSION

Dr. W. H. Marshall (Flint): This has been a most enjoyable symposium. It is a very difficult

subject. So many factors seem to enter into this field of endocrinology. In recent years, most physicians have been stressing a constitutional factor. Many of the speakers this morning have mentioned that. There is no question but that there are probably people who are doomed to have these disfunctions from the day they are born. Then, we realize the importance of certain dietary conditions. We, in Michigan, have realized what deficiency of iodine means. I wonder if we realize what vitamin deficiencies mean. Dr. McKean mentions that these cases of his had dental caries. In a recent study at the Mayo Clinics, they showed that dental caries is very commonly associated with a low calcium diet plus vitamin "D" deficiency. I think in our routine studies of these patients we probably pay no attention to the character of diet the patients are getting. We have girls in most of our cities who lunch on a sandwich or a malted milk, a very deficient diet from the standpoint of vitamins. I wonder if, in the future, we won't study those factors a bit.

Then, I am entirely in accord with all that our wise friend, Dr. Camp, has said about the psychic factors. One of the most violent cases of hyperthyroidism that I ever saw was in a nurse who, upon a visit to her home in a distant city, found that her father and mother were having certain domestic difficulties. She immediately came home and went into a violent hyperthyroid state that was only relieved by adjustment of the initial emotional conflict. I have seen many of those and I am heartily in accord with all that Dr. Camp says.

Dr. Hugo A. Freund (Detroit): Mr. Chairman, I was struck in Dr. McKean's paper by the age limits he placed on his hyperthyroid groups. I think it is a very interesting factor that we often see the hyperthyroid state develop in the young individual, 18, 19 and 20 years of age. I think, in a way, we can account for that. A good many of these young individuals when they pass the puberty age and there has been an increased call on the thyroid mechanism for increased amount of thyroid activity soon after that go into a stage of depression, that is, the thyroid itself goes into a period of depression. During that particular period, we are very likely to find girls of low mentality, getting unusually stout, developing an onomania, and many other symptoms of which the doctor spoke.

There comes another period of life, that of the climacteric (women, too, just before the cessation of menses), when there is a call on the thyroid. Then, the reverse takes place and a depression state ensues.

There is another condition that we see in which hypothyroidism develops in the presence of goiter. Some call it dis-thyroidism. After all, it is the high hyperthyroid state that is more potent and manifest in the individual who may have had a mild thyroid throughout his middle life, an enlargement of the thyroid, not so much due to physical enlargement of the glands, but to profuse adenomatous areas in the thyroid, and adenoma is really a tumor formation. As that continues to grow fiber changes take place in the glands. The thyroid outgrows the thyroid nodule itself with the depression of the actual thyroid secretory substance. In other words, the adenomatous growth does not secrete and give the normal substance the body needs, and may be filled with hemorrhagic substance, and may, indeed, be fibrous. an dour individuals, despite the fact that

they have large thyroid glands, develop hypothyroidism.

I was very much interested in Dr. Camp's stressing the emotional states as producing hypothyroidism. I believe in an analysis of over 3,000 cases made by Bram of Philadelphia somewhat over a year ago (I think the article appeared in "Endocrinology") it was shown that over 60 per cent began with the psychic coma of some type, such things as an automobile accident, emotional conflicts in the home, sudden frights, and so on, developing a definite hypothyroidism.

I believe Dr. Camp mentioned or brought out in his paper the fact that in some emotional stress one may see a hyperthyroid state develop, and in others it does not develop at all. In a way, I think we must look to the physical side of the condition. In other words, I do not believe we are going to get a definite hypothyroidism in an individual who is not apt to predisposition of hyperplasia of the glands. I think he must have a predisposition to the thyroid hyperplasias before you can expect a sudden change to produce a so-called hyperthyroid state. In other words, I believe we see emotional stress producing hyperthyroidism in areas of goiter and in the goiter-free areas, I do not think we see that as frequently.

That has been pretty well gone over by Heitzig and Mitchell, the German investigators, who investigated cases in the mountainous regions in the south and compared to causes they saw in the plains of Germany where they found it was much more common to see the hyperthyroid state develop where there was a previous disposition to thyroid than in the lower districts where it did not exist.

There is one little thing on which I can't help but take issue unless I misunderstand Dr. Camp's paper, namely, the effect of emotional states on hypertension. Dr. Camp used the word essential hypertension. I believe we must distinguish between those cases in which there is a very pronounced and definite psychic condition of some kind of anemic psychosis. In those cases, we do see variations of blood pressure occur. In other words I have seen, not infrequently, in cases of anemic depressive psychosis during the anemic stage patients with immense hypertension, and then during a period of quiet, the hypertension would entirely disappear and the patient would be entirely normal.

I think we must separate those cases from the so-called cases of hyperpiesis in which there is a hypothetic change in the vessels themselves, in which a fibrosis has taken place in the smaller vessels and the essential points of hyperpiesis, namely, that of intense fibrous changes occurring.

Those cases, I do not believe show very marked changes at least. They may be slight during the emotional states. That is particularly seen in cases of malignant hypertension which are essentially all primary hyperpietic states in which there is a marked general fibrosis of the arteries and vessels where neither intense emotional excitement nor anything else make any difference on the vascular tension. (Applause).

Dr. M. S. Chambers (Flint): I have been very interested in these papers this morning. I presume I am probably more interested in Dr. McKean's paper in that I have been interested in this group of cases in the past year. I think probably they are very, very common, and they are missed a great deal among various clinicians. They go the rounds of the doctors in their localities and, as

a rule, they are classified as neurasthenics or psychoneurotics.

I believe one of the reasons they are so commonly missed is that there is a great scarcity of literature on this subject, probably because these cases do not go to the hospital and therefore are not reported in the literature so commonly as they would be if they were hospitalized. I think it is high time we paid more attention to some of these so-called minor complaints that we see in our offices rather than always leaving it to the hospital as the place to study these cases.

I was very much interested in the symptoms that Dr. McKean has noted in these cases. I have found the same in the few cases that I have seen during the past year. I think one of the outstanding complaints is their lack of stability. They complain of very marked weakness, both physical and mental. It is very common for them to tell their doctor that they will read a newspaper article through and then be unable to remember what they have read. The same is true with some backward children in school. Occasionally, children who come from very intelligent families do not do well in school, and if you were to go over them carefully, check up their basal rates, and so on, you would find that they are underactive.

It has been a striking thing to me to observe the weight of these patients. We have been so accustomed to considering hypothyroid patients as being myxedemas that we almost expect, if our patient is not overweight, that he is not hypothyroid.

While I haven't checked up my cases recently, I believe that most of my cases are of normal weights and some of them are quite thin people, somewhat below normal.

The marked cold intolerance is a very prominent symptom. They will tell you that they need more bed clothing, that they have to have the house warmer than the rest of the family, and so on. Usually they do not perspire freely. There are some of these cases that clinically are so nervous and easily excited that they look almost like hyperthyroids. In fact, I have had some cases in which I thought maybe they might be hyperthyroid in the early stage in which I find the basal rates are considerably below normal. I think it is very hard to tell a real early hyperthyroid from a hypothyroid.

The physical sides which seem to be the most outstanding are dry hair, dry skin, occasionally to the point even of scaling, with chapping of the fingers, at times breaking open, so they become very sore, the nails breaking off easily. They are brittle and snap when you press on the ends of them. Often the eyebrows show some scarcity of hair, especially in the lateral end of the eyebrow. I have found the hair quite thin in the lateral half of the eyebrow in several cases.

Another thing I have noticed in the treatment of these cases is that after a period of time the thyroid dosage has to be increased. It seems to me that after they take it over a period of months, that possibly there is some decrease in the thyroid gland in the patient, that is, in the activity of the thyroid gland in the patient, so that the dosage of thyroid extract has to be increased from time to time.

I should like to ask Dr. McKean if he has had any result in the use of iodine administration in these cases. I, personally, have never tried it very much, only in a few cases, and in those I have not had any results and have had to go ahead and give them thyroid extract rather than iodine.

Dr. Merrill Wells (Grand Rapids): Mr. Chairman, without presuming to discuss in detail the Chairman's paper, one point he mentioned in speaking of the group of cases which he had regarded from a medical standpoint impressed me, which was the type of thyroid that he found in so many of those cases clinically, the soft, diffuse hyperplasia which had been noted.

I believe in carrying out the idea that was mentioned last year by Dr. Lewis and others who have controlled a good deal of the thyroid work by examination, etiologically, of the removed glands that we are getting to a simpler and simpler idea of the changes that occur in connection with certain of these thyroid cases, and that there may be a time when we will come to regard a large group of the cases now thought of as requiring entirely different types of treatment as merely different stages of thyroid disfunction or thyroid progress through the years. As one writer has said recently, the age of the goiter and not the age of the patient may be of considerable importance to us in outlining our treatment. Perhaps there will be a swing backward from certain phases of radical treatment which we think now is absolutely essential.

In Dr. Marinus' discussion, it seems to me that there is brought to us again the idea of the thorough study of the individual and not a classification of the type of thing that we first think we see when we examine the patient in a routine way. In other words, the condition is especially associated with endocrine disturbance, such as temporary glycosurias or disturbed sugar metabolism which are not true diabetes, or temporary digestive disturbances which are not organic failures or deficiencies, sometimes not even hindering activities, if we take them in the light of a complete study of the individual, and find as near as we can (we can't always be 100 per cent in our estimation) by putting the two or three different types of disturbance in the individual together that we can iron out some of the wrinkles without doing radical things aimed at one phase, you might call it, in that connection.

From Dr. Camp's mention of the influence of the functional disturbances, I am reminded from some of our own work, how, frequently, on consultation with the neurologist we see not only endocrine things straighten out to a degree at least, but also especially gastro-intestinal and other disturbances associated particularly with spastic bowel, in sufficient elimination, and so forth, when these functional factors are further studied and treated from the standpoint of relief of the conflict that he mentioned that has disturbed the individual for a period at least.

In Dr. McKean's paper one thought came to me in connection with these mildly hypothyroid patients. There is a group of patients who come to the internist and often do not see the skin specialist in a narrower field regarding such things as family tendencies in skin disturbances. Some of those patients, while a great many of them are in the hypothyroid class as Dr. McKean has said, show the dry skin and nails, and so forth. Another group which may not be showing this syndrome but show endocrine disturbance and are certainly exhibiting a large amount of the symptoms such as those Dr. McKean has listed, will show evidences of fat metabolism. They will come of a so-called liver family, and they will have various instances of fat disturbance, both in the digestive system and in the skin manifestations which it seems to me will cause some delay in this study of disturbed endocrine function, fully

as clearly as some of the things that we now are able to demarcate thoroughly. In other words, it seems to me that we are getting, by putting these ideas together from the neurological side, the nervous side, and the gastro-enteriological side, gradually closer and closer to a simpler idea of all these patients, and by team work we will accomplish more than we have previously on an individual appraisal of them.

Dr. S. Edward Sanderson (Detroit): It seems to me that we are approaching a much wider field. I cannot see how this subject can be approached except from several broad avenues. In the first place, constitutional background plays an important part. I think it is getting to be a bigger subject all the time. The older men knew of constitutional background and the younger men are learning it scientifically, and the average man in between is getting it. The constitutional background, in my mind, is like the different types of woods. I can't help but think offhand that we don't get these hypothyroids unless you have a constitutional tendency toward that sort of thing. It looks to me as though the subject resolves itself into a broad estimate of: First, constitutional background which includes heredity, metabolism of different types, and the endocrine values. The emotion of course comes right in on top of that. It seems to me in reviewing literature we owe a great deal to the neurologist.

I should like to ask Dr. McKean to speak of the pituitary side of hypothyroidism. It seems to me you cannot get away from the study of the pituitary. I think when these patients come in we shouldn't catalog them. We should study them first as a broad study, go down through, taking in the constitutional background. The constitutional background cannot be found without the study of certain things, for instance, pituitary. When we speak of endocrinology of the day, and we know it is a very deep and difficult subject, and a very tricky subject, how can you get your criteria? How can you balance your different endocrines?

We know the basal metabolic tests help us in evaluating the thyroid. How do we value the pituitary? We have ways of going about them. Amongst them is the study of the X-ray form which gives the pituitary, the bony architecture of the system as an indication of how the endocrines are balancing up.

I plead for a unified, broad, well-balanced study of the background that all our patients have. We have come to call it constitutional background. I have enjoyed the discussion.

Dr. C. J. Marinus (Detroit): This certainly has been a very interesting morning to me. It is always a pleasant sensation to find other people who agree with you. I want to speak particularly of Dr. Camp's paper. The thing that has puzzled me is what is first, the endocrine disturbance being the cause of the emotional disturbance, or the emotional disturbance being the cause of the endocrine disturbance. My own feeling about it has been that when we have outstanding physical signs of endocrine disturbance, we are justified in saying that the endocrine is the primary. When we have the same symptoms but with very little physical signs of endocrine disturbance, we should look for a neurological cause.

The cases which he presented have been duplicated in my work. I have even found cases in which I was unable to start menstruation with

endocrine therapy in which the proper correction of the emotional disturbance resulted in the resumption of normal menstruation.

Dr. Carl D. Camp: In regard to the case which Dr. Marinus has just brought up as to which comes first, I think that is a very interesting point. My own attitude is that the emotional disturbance may come first, so to speak, if we have a definite history that the patient has been well up until the time of this emotional shock and the symptoms occur after that. I think in such cases they may very well be accompanied by physical symptoms as well. On the other hand, I do believe if patients are having a disturbance of endocrine secretion, especially in the case of thyroid, that it is perhaps from some other cause, chronic infections, thyroiditis, or some other reason, so that they then become more sensitive to mental conflicts which, in turn, will perhaps increase the disturbance of the secretions. So we have a somewhat visual circle in that respect in those cases. The subject is a very large one and one which must be very brief, of course, in discussing the relations of the two, otherwise one could consume hours. Dr. McKean's presentation interested me especially. I see a large number of those cases, sent to me, I think, as cases of neurosis, psychoneurosis, on the basis of diagnosis by exclusion. I should emphasize the fact that personally I think such a diagnosis is always unjustified. There is a psychoneurosis of certain definite mental structure which makes it possible to diagnose them directly and not by exclusion. When I see such cases, I know that they are not cases of psychoneurosis, and several times, by exclusion in that way, I have fed such patients small doses of thyroid extract with sometimes excellent results.

There were two symptoms in connection with these cases which struck me especially as being interesting. They were called to my attention by Levy of Paris many years ago. One is the so-called thyroid rheumatism, vague arthritis, often diagnosed as rheumatism, sometimes as neuritis (very incorrectly), which improve very rapidly on small doses of thyroid. The other symptom which I think is rather interesting, especially to some of us at any rate, is the falling hair which is so commonly associated with mild degrees of hypothyroidism. Some of these cases, in fact most of them I have had, had a normal basal metabolic rate, and I have found that improvement would occur in these symptoms, at least, in spite of the fact that the basal metabolic rate was normal or approximately normal.

The remarks of Dr. Freund with reference to the constitutional peculiarities emphasized what I tried to bring out in my paper, but in these studies, each case must be studied individually. There is a strong constitutional factor, but we see the same thing in the secretion of other glands. There is a constitutional peculiarity, for instance, which leads one individual to shed tears very freely under any emotional stress, whereas another individual under the same stress would shed no tears at all. In one individual, blushing is a very common indication of his emotional state; another individual doesn't blush. Exactly the same factor applies to the endocrine glands, but if that individual is one who is susceptible to

change in his ductless secretion through emotion, then the emotion is, in fact, the cause of hypothyroidism.

So long as the emotion persists, although he may not be aware of it, he will continue to have these increased secretions of his thyroid gland.

On the point of essential hypertension, I think Dr. Freund and I do not disagree at all. It is simply a question of terminology. I used the term "essential hypertension" because I see it in the literature as descriptive of cases of high blood pressure without any other change. For instance, it is used by Rosenthal in a recent number of the *Journal of the American Medical Association*. If Dr. Freund would prefer, I could use the term "emotional hypertension." I avoid that term because it prejudices the case. On the other hand, I recognize that there are cases of hypertension no doubt due to arteriocalillary fibrosis, changes in the vessel wall, with which emotion has nothing to do. You may, if you please, use the term "essential hypertension" for those cases.

Dr. Richard M. McKean: I have very little to say. Dr. Chambers has brought up the subject of the use of mixed iodids in one form or another in this particular group of hypothyroid individuals. We have not tried it except in relatively few cases, and those cases are usually what present a peculiar syndrome. Strauss in Chicago has mentioned the possible use of the mixed group. They present symptoms, not only of hypothyroidism, but definite symptoms of hyperthyroidism. We have tried a few on thyroid with persistent tachycardia, persistent perspiration and tremor.

In spite of the fact that the basal metabolic rating is depressed and other signs show a hypothyroid side, we put them on the thyroid and subsequently add Lugol to control the symptoms on both sides. While those cases have been of recent development, one seems to show a definite improvement in the symptoms on the hyper side. I don't think the others warrant any conclusion. Those are the only cases in whom we have used iodine at all, except in the thyroid combination.

Doctors Freund and Sanderson spoke of the constitutional background. That brings to mind two families, one member of which came into the office and was proven to be among this particular hypothyroid group. Later on she sent in her sister who had symptoms similar to hers. She also turned out to be that type. Later, the brother was also sent in, and the same thing proved true. Two sisters and one brother were definitely proven to be hypothyroid and responded to thyroid therapy, showing there is apparently a definite factor in a family which makes them turn hypothyroid. While the precipitating factor may be the unusual iodine, salts or some other factor, still there seems to be a definite tendency in families to develop that particular thing.

Dr. Sanderson has spoken of the relation of the pituitary to the thyroid. I think that is a morning's discussion in itself. If we attempted to get into that, Dr. Marinus is more capable of discussing it than I. They exist in many occasions. As far as the roentgenologist's point of view is concerned, I think the pituitary side is still open to a whole lot of question, because it depends on so many factors. I don't think we will carry that any further just now.

THE DOCTOR'S LOG*

WILLIAM J. STAPLETON, Jr., M. D.
DETROIT, MICHIGAN

Probably there is no other way in which any one, and particularly a member of our profession, can secure complete relaxation equal to a sea voyage. Once on board a Trans-Atlantic liner one does not start at the sound of a telephone bell. If he is wise enough to leave the "Dr. or M. D." at home and to travel as plain John Brown, he is not even subjected to the tales of distress of his fellow passengers. Early in August the writer in company with his family left for a holiday in England. Our idea this time has been to travel intensively rather than extensively. We had resolved to see one comparatively small country and to see it well.

With this object in view we visited the English Speaking Union, an organization in old London, the purpose of which is simply the promotion of a feeling of rapprochement among English speaking peoples. Here we were provided with an automobile capable of accommodating four of us. After the necessary arrangements in the way of securing driver's permit and details of our itinerary, we set out by automobile, first in the direction of southern England.

Bright and early we left the ancient and always interesting London and found ourselves passing over the Hog's back for our first view of rural England. Lunch at Guilford in the Abbott's Kitchen, then on we went to Winchester and Salisbury, both places of historical interest. Near Salisbury we visited the ancient ruins of Stonehenge. Our route took us southward through the New Forest, of William the Conqueror's time. We passed through Dorchester, famous as the home of the late Thomas Hardy the novelist, as well as the location of Roman remains; then along the coast, Weymouth and the Island of Portland, the source of the famous marble; then on to Exeter with its cathedral; Torquay the famous seaside and yachting center, over Dartmoor to Princeton where frowns the great prison, Polperro, Penzance, Land's End, a glorious spot. St. Ives with memories of Stevenson, Tintagel which brings to mind King Arthur and his Knights of the Round Table, Clovelly the town of the street leading to the sea; Ilfracombe, Exmoor and its beautiful moors covered with English heather and gorse. We come to Glastonbury with its story of the Holy Grail, the birth place of Christianity in Britain, Wells a famous cathedral town, Cheddar famous for its cheese cave

and gorge, and on to Bath. Then in rapid succession we visit Bristol, Gloucester, to Tintern Abbey, made famous by Wordsworth's ode through the Wye Valley to Hereford. From here we drove into Wales visiting Llandudno, a famous spa town, Betty-y-coed, through the wild Vale of Llanberis past Snowden and on up the Straits of Menai where we crossed into Anglesey. Then by way of Chester with its Roman walls we drive to the Lake country with its memories of the poets and writers who lived there; next on to Greta Green, the famous runaway marriage spot where we entered Scotland.

SCOTLAND

"O Caledonia! stern and wild
Meet nurse for a poetic child!
Land of the brown heath and shaggy wood,
Land of the mountain and the flood."

The great poet of Scotland, Sir Walter Scott, sang the above in his "The Lay of the Last Minstrel." Scotland is surely a land of romance, of memories of heroic deeds and historic incidents, enchanting beauty and variety of scenery that makes it a paradise for tourists even if, as we experienced, it rains most of the time. On we go to Dumfries and Ayr to see where Burns lived, died and wrote his immortal verse. Now we come to "Glesca" town.

GLASGOW

The commercial capital of Scotland is chiefly interesting to medical men because of Lister and the epoch making work done at the Royal Infirmary where Lister practiced. His ward is no more. Why the ward was not left as a memento of his work we do not know. Of course it was out of date and in making improvements it was done away with.

"So fleet the works of men back to the earth again
Ancient and holy things fade like a dream."

If one wishes to see what this ward looked like he must go to London and visit the Burroughs-Welcome Medical History Museum* where one will see it recon-

* This is the third article by Dr. Stapleton which has appeared in the Journal M. S. M. S. during the past three or four years. Dr. Stapleton is a wide traveler. He has visited almost every country in Europe, as well as two or three in western Asia and Egypt, and other Mediterranean countries as well. Dr. Stapleton's descriptions are always interesting. The comment on the former "Logs" has been so favorable that the editor takes particular satisfaction in giving space to the present paper.—Editor.

* The equipment and instruments used by Lister were shown in Detroit at the American College of Surgeons, 1927.

structed together with a most complete collection of Lister's instruments.

The University of Glasgow has fine buildings and there is the cathedral, the art galleries, parks to attract the visitor besides the great ship-building plants along Clyde bank where many ocean liners are built.

So we leave Glasgow and go north through the Trossachs to Forth William, Oban and Inverness; the "capitol" of the highlands. In our little car we drove up the hills and over the heather clad highlands which in spite of the continual rain are glorious in their rugged grandeur, along the border of salmon streams in view of the shepherds with their sheep and great horned cattle. Then to Braemar where each year the highland games are held and then to Balmoral, the Scottish home of the Royal family.

Among the towns of Scotland none has a greater history than the old town St. Andrews, with its famous university. In these modern days St. Andrews seems to be better known as the home and arbiter in all things relating to golf. Here is the headquarters of the game which curiously enough was first played by the Dutch. The two chief courses are along the sea shore. Not being a golfer I can only say that the links with their hazzards and the strong wind blowing from the sea would be a place to tax the skill of any player.

The University of St. Andrews was founded in 1413 and is the oldest in Scotland. Among the famous men who went to school in this town were the Admiral Crichton, Andrew Lang and R. F. Murray. It was in the parish church that John Knox preached his first public sermon in 1547. Throughout the centuries St. Andrews was the ecclesiastical center of Scotland. One may see the ancient gateways and weathered walls of the churches; a charming old town which appeals to others though especially to the golfer.

To the medical man there is another shrine to visit. Here is the clinic of that "Master of the Heart" called "The Beloved Physician," Sir James MacKenzie. He was, as is well known, the family doctor who became the noted heart specialist. Yet in the heyday of his career in London he turned back to be the family physician again that he might round out his life work. This he did by going to St. Andrews. I visited the house facing the sea and only a short walk from the golf links where the James MacKenzie Institute for Clinical Research was established in October, 1919.

For a sympathetic story of his life, "The Beloved Physician," by R. MacNair Wilson is well worth reading. MacKenzie certainly exemplified in his life work the teaching of One who was first called by the name of "Great Physician." Through the courtesy of Dr. G. Matthias Fyfe who is the medical health officer of St. Andrews and attached to the Institute I was taken through the building. The equipment is of the simplest; the X-ray and clinical laboratories are good. The population of St. Andrews is a rather stationary one; people do not migrate so there is an opportunity to study the family as a whole. This is adequate reason why the Institute is located in this particular place.

Edinburgh, the next city to visit, is only an hour from Glasgow. Here Lister spent many years of his life. Here he met Syme with whom he worked and having married his daughter he became one of Syme's household. On Princes street is a monument to Sir James Young Simpson and at 53 Queen street is a house with this inscription, "Sir James Young Simpson lived in this from 1845-1870 and in 1847 discovered the anaesthetic form of chloroform." He it was, who, when assailed by the clergy for helping to relieve the pains of childbirth, replied by quoting from the Bible: Genesis 11, Verse 21—"And the Lord God caused a deep sleep to fall upon Adam, and he slept, and he took one of his ribs, and closed up the flesh thereof." This settled the controversy. It is said that Simpson violently attacked Lister's methods.

Sir Hector Cameron in his life of Lister says that Lister defended his treatment and took part in the battle unwillingly, for his gentle and reserved nature made anything of this sort repugnant to him. Edinburgh is one of the three or four cities which do not disappoint the visitor. Edinburgh is rich in its memories of war and peace, its art, literature, medicine, education and religion. Burns, Scott, Stevenson and others have cast the glamor of their lives about it and the spell is still there. The great University with its medical school and hospital with the roster of names famous the world round is still a Mecca for students. There is so much of interest that a mere catalog would fill pages. We left Edinburgh with regret and drove south through the Scott country visiting Melrose Abbey and coming to New-castle-in-Tyne. Then to Durham with its magnificent cathedral, Ripon and stop for the night at the famous Spa, Harrogate.

Before writing about Harrogate, mention should be made about "English Spas." The word usually brings to mind such places as Karlsbad, Marienbad or Vichy. The Englishman does not need to cross the Channel in order to obtain the benefits of the European resorts, as the same may be had in his own "tight little Island." Among the well known "Spas" of Britain are Bath, Harrogate, Buxton, Leamington, Llandrindod Wells, Strathpeffer, Cheltenham and others. In this article I will speak briefly of the two which impressed me the most.

"Oh! what avail the largest gifts of Heaven,
When drooping health and spirits go amiss,
How tasteless then whatever can be given
Health is the vital principle of bliss and
Exercise is health.
Then in life's goblet freely press
The leaves that give its bitterness;
Nor prize the healing waters less,
For in thy darkness and distress
New light and strength they give."

Over the entrance hall of the Royal Baths is the above quotation. Walking into the office of the General Manager, Mr. F. J. Broone, where I was most cordially received, after a short conversation relative to the waters, I was introduced to Mr. A. Woodmansey, M. Sc. analyst and scientific officer for the Harrogate Corporation. Under his guidance we visited the bathing establishment. In the laboratory daily tests are made of the many springs. We then walked about this delightful town. I found the hospitality of the British doctor without bounds. Every possible courtesy was shown the American medical visitor. Harrogate, the name probably goes back to "har" meaning hoary or grey, from the grey appearance of the deposited salts and sulphur surrounding the stronger springs. The waters of Harrogate vary in their chemical composition, saline sulphur, magnesia, saline hot springs, alkaline sulphur, pure chalybeate. Besides giving the regular baths they also give the peat or moor bath. The ferruginous peat of the neighboring moor is mixed, ground and used like a great poultice, applied well heated. It is said to have a definite therapeutic effect in various skin diseases, promotes absorption of effusions. It is said to favor muscular relaxation and to act as a general sedative to the nervous system.

Another interesting type is the paraffin wax bath. The limb is immersed in warm paraffin mixture where heat is desired for a long time. The average length of a cure is three weeks. The waters of Harrogate are so various that one may have laxative, aperient or purgative, diuretic or alternative action.

Bath, the "Premier Spa of the Empire," is a delightful little city full to the brim with things of interest to the medical visitor. Legend has it that an ancient British prince who had become afflicted with leprosy was driven from court. He wandered about and finally became a swine-



Land's End

herd. The swine contracted the disease, but attracted by the hot springs boiling from the earth, they wallowed in the steaming morass with the result that the leprosy disappeared. The prince followed their example and was cured. He returned home and became eventually king. Later he returned to the place of his cure, built palaces and temples and here founded his capitol. The first "City of the Hot Springs." Along about A. D. 54 the Romans erected magnificent baths and temples and named the city "Aqua Solis" which flourished for nearly four hundred years. When the Romans left Britain the baths and temples fell into ruin and the city was completely destroyed by the Saxons, A. D. 577. The Romans were almost modern in their ideas of bathing and plumbing. One has only to wander about the great Roman Bath to see this. In the 18th century due to the efforts of Beau Nash, Bath became the fashionable resort of all England. The city is a typical Georgian type with beautiful gardens, streets arranged in what are termed "crescents" such as the Royal Crescent, the Circus, Queen Square, and the Parade. All this is due to the celebrated architect, John Wood.

Our itinerary returning to London took us through Bedford, Oxford and Sulgrave Manor, the ancestral home of George Washington. The little town of Bedford is now fairly prominent as the home of the author of Pilgrim's progress. This year is the 300th anniversary of Bunyan's birth. The circular tour with wife and family took us over 2,500 miles of splendid English and Scottish roads.

MEDICAL LONDON

England, 1928, has been celebrating the anniversaries of two of her great medical men, Hunter and Harvey*; one the surgeon, the other the internist. The story of the life of each reads like a romance. If one visit the town of Folkstone on the southeastern coast he will find in the ancient church of Saint Mary and Eanswith the window presented to the memory of Harvey through the contributions of three thousand English doctors. Here Harvey was born in the year 1578.

Mention of John Hunter calls to mind the Hunterian Museum in the Royal College of Surgeons which is located at Lincoln's Inn-Fields. Hunter left a nucleus of about 30,000 specimens which number has been increased so that the Hunterian Museum is one of the richest anatomical museums in the world.

A visit to Chelsea is an interesting experience. Chelsea is on the Thames a short distance west of the British Parliament. It is the artists' London in the past frequented by such men as Whistler, Rossetti and Turner. Near here was the home of Carlyle. By the medical visitor Sir Hans Sloane, a former inhabitant, must not be overlooked. Sir Hans gave the Physic Garden to the Apothecaries Company "that apprentices and others may better distinguish good and useful plants from those that bear resemblance to them and yet are harmful." Sir Hans Sloane (1660-1753) was one of the great English physicians. He was founder of the Royal Society as well as the virtual founder of the British Museum.

On Harley Street and Winpole Street are located the offices of many members of the medical profession in London.

London has a society devoted to "constructive birth control and racial progress" which is presided over by a woman of much erudition but who is not a medical doctor. The official organ of the society is known as the "Birth Control News." Instruction is given by traveling nurses which resemble very much the visiting nurse of an American city.

THE BRITISH MEDICAL ASSOCIATION

The beautiful new building of the British Medical Association located on Tavistock Square was opened in 1925. It contains the "Great Hall" a library, members lounges and restaurant. It is needless to say that the British Medical Association is the Mecca for all information relative to

medical matters or post-graduate education so far as Great Britain is concerned. The Burroughs Welcome Company deserve honorable mention for the facilities they have provided for the preservation of objects pertaining to medical history. The Burroughs Welcome Museum was founded in 1913. While comparatively young it is made up of collections from all parts of the world. It has been adopted as the Museum



Stonehedge

of the "Section of History on Medicine," and forms part of the 17th international congress of medicine held in London in 1913. As an example of what the museum contains, we have the Hall of Primitive Medicine, showing primitive modes of treatment, primitive secret societies, ancestral culture and skull cults. The development of medicine is interestingly illustrated from primitive to modern times. I have already referred to the preservation of Lister's various instruments. This is probably the most complete institutional museum in the world devoted entirely to the history of medicine.

London hospitals carry an interest that is sometimes wanting in the newer and more up to date institutions in America. St. Thomas Hospital, London, was the home of the first nurses' training school in the world which was established by Florence Nightingale. Here one may see the original room as well as the various articles of nursing equipment of the woman whose innovation revolutionized not only hospitals but medical practice as well. For is not good nursing the handmaiden of good prescribing? The great hospitals of London

* Since the career of both Harvey and Hunter have appeared so recently in the Journal M. S. M. S. the writer will not go into further biographical detail.

are all so-called charitable institutions having no provision for private patients. Strange as it may seem the pay patient must be taken care of in private nursing homes.

Guy's hospital near London Bridge is located in the district so beloved by Dickens. It was founded in 1725 by Thomas Guy who, according to the inscription on his statue in the courtyard, was the soul founder. The 200th anniversary of the founding was observed in 1925. Thomas Guy is said to have acquired a huge fortune beginning as a book-seller and publisher producing and selling the Bible contrary to law. He likewise showed considerable business acumen by selling out before the failure of the South Sea Company, or the bursting of the South Sea Bubble as the incident used to be known in our school histories. Richard Bright of Bright's Disease fame and Thomas Addison, whose name was associated with a peculiar condition of the adrenals were associated with this hospital. Many others of almost equal note might be mentioned. The poet John Keats who was also a physician was trained here. Keats it will be remembered, died at an early age. It is said of him that he was addicted to mind-wandering instead of listening to his medical lectures.

"Oh! wherefore all this worrying circumstance?
Why linger at the yawning tomb so long?
O for the gentleness of old romance
The simple planning of a minstrel's song."

The Royal Hospital of St. Bartholomew "the mother hospital of the Empire," is said to have been founded 800 years ago near the priory Church of St. Bartholomew. The old church and hospital are within a few minutes of each other. What a story each could tell! Among the names of the men famous in the history of the old hospital may be mentioned John Mirfield, author of the first printed book in medicine, 1400 A. D.; William Cloves was surgeon of the Fleet that defeated the Spanish Armada. His writings are said to have been the best of the Elizabethian Age. Wil-

liam Harvey was connected with St. Bartholomew as was also Dr. Caius of Cambridge. John Abernethy was a teacher and helped to enlarge the library. Hogarth the painter was a governor and on the walls of the hospital are two large frescoes painted by him, "The Pool of Bethesda," and "The Good Samaritan." Robert Bridges the Poet Laureate who is also a physician, was a student here.

In conclusion, a paragraph or two on the so-called Panel system of practicing medicine which, as every one knows, is "state medicine" in operation to the extreme degree. This form of socialized medicine has prevailed to a large degree in England and one or two other countries since the war. The fact that it is not satisfactory is evidenced by the voluminous correspondence on the subject in the London Times and other periodicals. The physicians find it particularly irksome. Some complain of the clerical details; others of the haughty reaction of patients who look upon the doctor as their servant. Such a system or any modification of it should it ever prevail in the United States, would be a sorrowful situation both for the physician as well as the patient.

May I say that our experience in England last summer has given us a great deal of satisfaction. Never have we been treated more courteously; the English physician was most kind. Let us end with this extract from a Poem by E. V. Lucas.

"O England, country of my heart's desire,
Land of the hedgerow and the village spire,
Land of thatched cottages and murmuring bees,
And wayside inns where one may take his ease,
Of village green where cricket may be played,
And fat old spaniels sleeping in the shade—
Your daisied meadows and your grassy hills,
Your primrose banks, your parks, your tinkling
rills,
Your copses where the purple blue bells grow,
Your quiet lanes where lovers loiter so,
Your cottage-gardens with their wallflower's
scent,
Your swallows 'neath the eaves, your sweet content!
And 'mid the fleecy clouds, that o'er you spread,
Listen, the skylark singing overhead."

CONFERENCE AIMS AT WIPING OUT CAUSES OF BLINDNESS

Not merely preventing blindness, but wiping out its chief causes, is the aim of the three-day conference which was held in New York under the auspices of the National Society for the Prevention of Blindness. A material reduction in the amount of blindness in the United States within the next generation is confidently looked for, declared Lewis H. Carris, managing director of the Society. The progress in reducing blindness during the last 20 years and the research projects which are now under way give this high

aim a firm foundation, in Mr. Carris' opinion. A reduction of 64 per cent in 20 years from one cause of blindness, ophthalmia neonatorum or babies' sore eyes, has been made. Great progress has also been made in the study of trachoma, another widespread cause of blindness. Much of this is due to the work of the late Dr. Hideyo Noguchi.

Industrial physicians, physicians specializing in diseases of the eye, sight-saving class supervisors and public health nurses have gathered here for the conference.

MULTIPLE NEURITIS DUE TO FOCAL INFECTION*

CECIL CORLEY, M. D., F. A. C. P.**

JACKSON, MICHIGAN

Multiple neuritis, polyneuritis and peripheral neuritis are terms used synonymously to designate those cases "in which, as a result of a general cause—toxic, infectious, or metabolic—the symptoms present point to a more or less simultaneous affection of many of the peripheral nerves, or their associated peripheral neurons, as manifested by disturbance or abolition of their functions." (Stewart) This definition obviously does not include those changes in nerves due to mechanical means, such as wounds, pressure from any source, or abnormal traction.

The pathology in multiple neuritis varies widely, according to the duration and severity of the disease. Feiling states that the symptoms are the result of a degenerative rather than an inflammatory lesion. He describes changes in the medullary sheaths and in the axis cylinders which are degenerative in nature, while the neurilemma shows definite inflammatory changes. Natrass, however, reports the examination of several hundreds of serial sections of the great auricular and musculocutaneous nerves removed from a case of very acute and widespread multiple neuritis, involving the muscles of articulation and the facial muscles, in addition to those of the legs, arms, and trunk. Natrass' examination showed no degeneration, and only edema of the nerve sheath and slight vascular changes. It would seem therefore that a toxemia which later produces a profound degeneration, first alters or destroys the function of the nerve, before there is any degenerative process demonstrable by present histological methods.

Because of the wide variation as to location, severity and duration, neither the anatomical changes, nor the clinical signs and symptoms fall into any grouping, sufficiently characteristic to warrant a pathological or clinical classification. The classification most applicable therefore, is that based on the etiological factors. The varying distribution of symptoms in multiple neuritis suggested to the early writers that the disease was the result of some generalized intoxication. This hypothesis has been born out by more recent observation of the large series of cases definitely related etiologically to some toxin either endogenous or exogenous. Neuritis might be classified etiologically then as due to:

1. Chemical poisons—Alcohol, lead, arsenic, etc.

2. Acute bacterial infection — Diph-

theria, influenza, scarlet fever, puerperal sepsis.

3. Conditions of altered metabolism and malnutrition—Diabetes, tuberculosis, cancer, starvation, beri beri. (Whether these diseases produce neuritis because of a toxin of their own, or because of an increase in the vulnerability of the nerves to toxins of some other source, is unknown.)

4. Direct infection of nerve trunk—Leprosy.

5. Chronic focal infection—Teeth, tonsils, cervix uteri, and nasal accessory sinuses.

Cases included in the first four groups have been amply described in the medical literature and text-books. However, neuritis from the last named cause, chronic focal infection, has received little consideration, and it is this group of cases which we wish to discuss.

Symptoms of multiple neuritis from chronic foci of infection are not unlike those from other intoxications except that in our limited number of cases, the pain was possibly more severe. The earliest and most prominent symptoms are sensory, varying from a slight paresthesia and sensation of numbness, to excruciating pain. Pain is the only symptom in a number of cases especially in the cervico-occipital region, the chest, and abdomen. Patients usually first complain of soreness and a mild aching sensation. As the condition progresses there is a continuous aching pain and this is not relieved by local applications or the usual analgesics. Patients are unable to rest at night and say that they "are unable to get into a comfortable position." These sensory symptoms may precede the motor changes by days and usually by weeks and may be the only symptoms present. Of the motor changes the patient notices first a progressive weakness followed by paralysis and shrinking of the muscles. In only one of our cases did the patient complain of loss of sphincter control. Examination in the early stage of the disease shows only tenderness

* Read before the Section in Medicine, M. S. M. S., Detroit, September 27, 1928.

**Dr. Corley is a graduate of the University of Michigan Medical School Class of 1919. Internship at New Haven Hospital, New Haven, Connecticut. Instructor University of Michigan Medical School for one year. His practice is limited to Internal Medicine.

over the affected nerve, more severe at its point of exit from deeper structures. Before other changes take place this tenderness may be confusing and lead to a diagnosis of disease of some underlying viscus. Thus the diagnosis of angina pectoris, cholecystitis, partial intestinal obstruction, salpingitis, or chronic appendicitis may be made. The last named diagnosis is too frequently confirmed by the roentgenologist, and later by the pathologist, to the reward of the surgeon but without relief to the patient. Carnett in his excellent articles on pseudoappendicitis, has called attention to this type of pain, and the frequency with which the patient is unrelieved following operation for supposedly intra-abdominal pathology. As the disease progresses, definite motor changes are found, manifested first in exaggeration of the tendon reflexes, later in their diminution and absence. There is definite weakness of the muscles, progressing to total paralysis and atrophy. The paralysis is flaccid in type. If the legs are affected, the gait may be ataxic and closely resembles locomotor ataxia. This is due to weakness of the muscles, together with some loss of sense of motion and position.

Evidence of a general intoxication in these cases is found in the involvement of other organs outside the central nervous system. One patient showed a definite arthritis with pain, crepitus and limitation of motion of the affected joint. Two patients showed definite mental changes manifested by a marked depression, weeping, fear of death, etc. One patient developed a definite auricular fibrillation which lasted only forty-eight hours and has not recurred since the removal of his foci. Patient's rest is inadequate because of sensory changes, appetite is poor and there is marked loss of weight. Temperature is not elevated.

The laboratory findings in multiple neuritis are essentially negative. In one case (F. B. E.) there was a neutrophilic leucopenia which is not essential, however, to the diagnosis of toxemia from focal infection. In others the blood, urine, stools, and blood chemistry were entirely negative. In the one case in which spinal puncture was done the spinal fluid was entirely negative. Negative findings are reported in the spinal fluid of neuritis of other types. Blood Wassermann was negative in all our cases.

In diagnosis differentiation between neuritis and neuralgia is generally impossible in the absence of motor changes. From a

therapeutic standpoint it seems best to regard neuralgia as merely a symptom rather than a disease process, and thorough search should be made for the cause, mechanical or chemical, of pain following the distribution of any nerve or nerve group. From this view point the differentiation is unimportant.

Landrys paralysis is recognized by massive paralysis, rapidly ascending from the feet, the absence of pain on palpation of nerves and muscles, and the rapidly fatal outcome. Syringomyelia shows characteristic disturbances of sensibility to pain, heat, and cold, of a dissociative type, while in neuritis there is loss of all forms of sensibility corresponding to the nerves affected. In anterior poliomyelitis the onset is more acute, is febrile, there is less pain, and loss of sensation does not occur.

Tabes dorsalis is frequently mistaken for neuritis but is characterized by slower onset, lightning pains, abnormal or absent pupillary reactions, optic atrophy, absence of paralysis or tenderness on pressure, and the characteristic findings in the spinal fluid including the Wassermann reactions and gold curve.

The differentiation of pain of neuritis from that of pathology of some underlying viscus is most important, and most frequently ignored; this is especially true of abdominal pain. The diagnostic findings in disease of abdominal organs are well established, and the diagnosis of disease of any organ should not be based on a single symptom, pain, but should include a careful evaluation of all other signs and symptoms. The mere finding of pain and tenderness over some abdominal organ does not warrant a diagnosis of disease of that organ. Pain may be referred, or may be due to definite nerve pain in the abdominal wall. Neuritis or neuralgia in the abdominal region may give rise to pain, localized to any small area, or may give to the patient a sensation of fullness which he feels would be relieved by eructation or passing of gas by bowel. Further inquiry leads to the history of the pain radiating elsewhere, lameness in the back corresponding in location to the nerve affected, and the history of a certain position of the spine in which the patient may obtain relief. There are frequently evident other results of chronic focal infection such as painful and enlarged joints or other affected nerves. Examination with the abdominal wall tense and relaxed as described by Carnett shows the tenderness to be located in the abdominal wall. There is tenderness or hy-

peresthesia following the distribution of the nerve supplying the tender area, frequently with tenderness or limitation of motion of a corresponding region in the spine. Intercostal nerve pain in the region of the heart may be distinguished from angina largely by the effect of exercise and the absence of other cardiac symptoms.

Multiple neuritis can not be confused with arthritis if the localization of the pain, swelling, and redness of the joints is noted. In arthritis there is a definite limitation of passive movement. Because of the mental changes which accompany certain types of toxic neuritis, a diagnosis of arterio-sclerotic dementia is made. The most important finding in the diagnosis between the two conditions is the presence of a definite sclerosis of the retinal vessels in cases of arterio-sclerotic dementia.

The diagnosis of the etiological factor in multiple neuritis is largely a matter of exclusion. Multiple neuritis occurring in presence of chronic foci of infection and in the absence of other intoxications would point to the focus of infection as the cause of the disease. Other etiological factors may be present simultaneously, as was the case in one patient with a history of alcoholism whose neuritis did not abate following the withdrawal of alcohol, until after tonsillectomy. Improvement following tonsillectomy was prompt and definite up to some time after leaving the hospital, when another drinking bout caused a recurrence of his symptoms. At the onset of his illness before motor changes occurred his abdominal pain had been attributed to disease of gall bladder and appendix.

The treatment of neuritis from chronic focal infection is self evident. In the presence of a number of foci however, it is advisable to go about their removal cautiously. If the teeth and tonsils are both infected, they should not be removed at one time. Or if there are a large number of abscesses about the teeth, these should be extracted, one at a time, at an interval of several days. The added infection thrown into the blood stream by removal of a large number of foci at one sitting, has been known to result fatally from an overwhelming septicemia. The curetment of abscess cavities about the apices of teeth should never be done, for the same reason.

CASE REPORTS

M. S., age 35, married, housewife.

Chief complaint—General weakness, pain and prickling sensation in the feet, legs, hands and arms.

Family history—Negative.

Personal history—Typhoid at 23. Tonsillectomy at the age of 32. Tubes, ovaries and uterus were removed at the age of 34. No history of recent infection or exposure to exogenous poison.

Present illness—Six weeks prior to examination, patient first noticed a prickling sensation in the feet and legs so severe that she could not rest. This rapidly involved the feet, legs, thighs, hands and arms. She then noticed progressive weakness involving the muscles of the extremities and the trunk muscles as well, with such tenderness of all muscles that she was unable to lie comfortably in bed. She finally lost sphincter control, passing feces and urine involuntarily. She became unable to walk without support, her arms and hands were so weak that she was unable to comb her hair. Throughout her illness her appetite was very poor and the weight decreased from 115 to 89.

The interesting findings in the physical examination were: marked emaciation; extreme general weakness; teeth that showed a moderate amount of dental work and some pyorrhea; no tonsil remains; normal heart, lungs, and blood pressure; normal pupillary reactions; normal facial and extraocular movements; absent biceps, triceps, knee, and Achilles jerks. Gait was peculiar and was characterized by extreme weakness in movements of the knees and feet. Weakness on dorsiflexion of the foot necessitated lifting the foot very high and this in turn was difficult because of the weakness of the flexors of the thigh. All muscles of the arms and legs showed extreme weakness. Palpation of the affected muscles was painful. Patient complained of prickling and painful sensations more severe in the feet but also present in the hands and arms. No atrophy of any muscles was noticed. Urine and blood Wassermann were negative. Stools were negative for blood and parasites. X-ray examination of the teeth revealed pyorrhea or apical abscesses about every tooth but one. Diagnosis of multiple neuritis was made with the infection about the teeth as the probable cause. Removal of all teeth was done at once and was followed by gradual disappearance of her symptoms. Within three months she had gained in weight from 89 to 130 lbs., had regained full strength of all muscles, reflexes were normal, and she was able to do her own housework.

Patient L. M., male, age 67, married. American. Day laborer.

Patient entered the hospital May 23, 1927 complaining of pain and weakness in the shoulders and arms.

Family history—Unimportant.

Personal history—Unimportant. He gives no history of having had tonsillitis or quinsy.

Present illness—Four months prior to admission the patient began to have sharp shooting pains in the left chest, shoulder and arm. These were intense at times and were not associated with exercise or exertion. At the time of onset patient was shoveling several tons of coal daily and was exposed to severe cold and dampness. After a few weeks the pain appeared in the right arm and shoulder and later in the cervico-occipital region. He was then unable to rest without opiates. About two months after the onset of the pain the patient noticed marked weakness of the shoulders, arms, and hands, followed shortly by shrinking of the muscles in these regions. Weakness became so severe that he was unable to feed or dress himself. From the onset of the pain, he had marked emotional upsets characterized by weeping, irritability, outburst of temper, extreme depression with extreme fear of death, dissatisfaction with

his care, etc. Throughout the illness his appetite was very poor he was unable to rest at night and would frequently sit in a chair by the stove all night. No history of exposure to any of the common chemical poisons could be elicited and he had no history of any recent acute infection.

Physical examination: This shows a man rather senile in appearance and in extreme pain. Height about 68 inches. Weight about 130 pounds. Of the significant findings there were noted an advanced arcus senilis, sclerotic peripheral arteries, artificial teeth, and tonsils from which pus could be expressed. Chest was emphysematous. A soft systolic murmur was heard at the aortic area with accentuation of the aortic second sound. Blood pressure 136/88. Pupillary reactions, extraocular and facial movements, cremasteric, umbilical, patellar, Achilles, and plantar reflexes are normal. Station and gait are normal with eyes open and closed. Biceps and triceps jerks were absent. There was marked atrophy of the muscles of the shoulders, arms and hands. Weakness was such that he was unable to feed himself and all movements of the arm were difficult. Examination of the urine was negative. Non-protein-nitrogen 28 mg. per 100 cc. of blood. Blood Wassermann was negative on three different occasions. Red count and hemoglobin were normal. White blood cells 4,400 with slight decrease in the neutrophils. Diagnosis of multiple neuritis from tonsillar infection was made. On May 26, 1927 tonsillectomy was done under local anesthesia. Within one week definite general improvement was noticeable, especially in the disappearance of the intense pain. Within three weeks he was able to feed and dress himself. In three months the patient had sufficiently recovered to be able to do strenuous work of a day laborer, although there was some atrophy, most noticeable in the muscles of the thenar and hypothenar regions, although the grip was normal. He still complained at that time of some paresthesia in the left third and fourth finger.

F. B. E., age 51, married. American. Male. Garage owner.

Patient first seen in June, 1926, complaining of:

- (1) Pain in the back of the head and neck.
- (2) Weakness.
- (3) "Nervousness."

Family history—Not important.

Past history—Of importance in the past history is, diphtheria, in childhood; illness with chills, fever, and jaundice, lasting three months at 20. He had two attacks of renal colic, recurrent attacks of tonsillitis and quinsy, and denies venereal disease. About four years prior to examination he had almost daily dull aching pains in the cervico-occipital region which lasted about one year. These were very similar to the pains described in the present illness. No history of recent acute illness or exposure to the common chemical poisons.

In January, 1926, the patient complained of pain which began in the cervico-occipital region, became progressively more severe and radiated to the right shoulder and hand. A few weeks after the pain was noticed in the shoulder and arms he began to notice weakness in the right hand, arm and shoulder so that active abduction of the arm was very limited. Soon there developed severe pain in the shoulder joint with crepitus and limitation of motion. About three months after the onset of sensory symptoms a definite atrophy with increasing weakness of the infraspinatus, supraspinatus, and deltoid group of muscles was noted. In addition to the localized changes in the

neck, right shoulder and arm, there was extreme general weakness so that walking from one room to another was difficult. There were no sensory changes in the legs or left arm. At about the onset of the pain the patient also became depressed mentally and would come home at night weeping. The mental symptoms became so severe that he was quite sure he was going to die, threatened suicide, and would weep bitterly on mention of his own condition. The patient was able to talk intelligently on other subjects, however, and there was no disorientation or loss of memory. In July, 1926, the patient had an attack of dyspnoea, rapid and irregular heart, with cyanosis, lasting 48 hours.

Physical examination showed a man in severe pain, much depressed mentally, weighing about 140 pounds and about 71 inches in height. Color was good. Tonsils were enlarged, cryptic and pus could be expressed from the crypts. Several teeth were devital. Heart was regular except an occasional extrasystole. Sounds were of rather poor quality. Blood pressure 106/72. Peripheral vessels were not markedly sclerotic. Retinal vessels (as reported by Dr. W. A. Cochrane) showed very slight sclerosis. Abdomen showed some tenderness on pressure in the midepigastrium. There were large varicose veins on both legs with a scar of an old varicose ulcer on the left. Neurological examination showed normal pupillary reactions, and no facial or extraocular paralysis. Tongue protruded in the mid-line with slight tremor. Palpation of the upper cervical and occipital region, shoulder and upper arm was very painful. There was marked atrophy and weakness of muscles of the shoulder girdle. Biceps and triceps jerks were not obtained on the right side, were normal on the left. Active abduction of the right shoulder was limited to about 20 degrees. Passive abduction was limited to less than 30 degrees because of pain in the shoulder joint where crepitus could be felt. All muscles of the hand and arm were very weak. There was some loss of the sense of touch so that objects held in the hand could not be distinguished unless grossly different in shape. Umbilical and cremasteric reflexes were present. Knee and Achilles jerks were present and equal. Plantar reflexes were normal. Station and gait somewhat unsteady, apparently because of weakness but without definite ataxia.

Laboratory examination showed the blood Wassermann negative on three different occasions. Urine was repeatedly negative. R. B. C. 5,000,000. Hemoglobin 90. W. B. C. 3,800. Stool examination negative for blood and parasites. In August, 1927, under local anesthesia tonsils were removed. Patient had an uneventful recovery and within three days after removal of the tonsils the pain, which had become excruciating, practically disappeared. The remaining teeth were extracted one at a time. Patient immediately began to feel better. mental condition improved, he gained strength rapidly and within six months his recovery was complete including a disappearance of the atrophy, a complete return of his strength and a gain of 55 pounds in weight. The mental condition had so far improved that he obtained a responsible position at the Michigan State Prison.

In conclusion, neuritis has definite and characteristic signs and symptoms by which it may be recognized as a clinical entity. Paralysis and atrophy of muscles are frequent, but not constant, findings and their presence is not necessary to a

diagnosis of neuritis. In cases complaining of pain in the chest and abdomen the findings are sufficiently characteristic to differentiate the pain, originating in disease of the nerves, from that of pathology of the underlying viscera, even though the pain may be sharply localized over one particular organ. Multiple neuritis, in our experience, is more frequently a result of toxemia of focal infection than all other causes combined. Removal of all foci of infection in such cases is generally followed by complete recovery.

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DISCUSSION

Dr. Elmore Lewis (Jackson): Personally, it has always struck me that the reason we found such a problem is that many of them have passed the age of 40, passed the time when we think of foci of infection having pretty much to do with the condition, and usually the age when we would likely look at the tonsils and infections about the body and because of age pass them up and see what we could do from medical treatment. I do know that in a number of cases at the age of 50, and even beyond the age of 60, if they are looked for you will find very septic conditions in the throat which appear on the surface to be normal.

Dr. G. M. Livingston (Highland Park): I should like to ask Dr. Corley if he has had any experience with the syndrome similar to the one he has described in early cases of pregnancy. The case I have in mind is one that is in about the fourth month of pregnancy and has had very severe symptoms involving the fourth month with a good deal of tenderness and some edema in the hands and fingers. The patient has complained very bitterly of night pains so that she is not able to sleep. That has persisted now for about two months and she had something similar at a previous pregnancy. I am wondering if Dr. Corley can help us out on the treatment of such a condition as this.

Dr. F. C. Currier (Grand Rapids): I should like to discuss this paper having been particularly interested in multiple neuritis for the past several years, especially in cases in which there was a double facial, involved cases of facial diplegia. That type of case is frequently associated with involvement of other cranial nerves, and it offers a different problem in distinguishing cases of ordinary multiple neuritis from that associated with encephalitis. In the lethargic type of encephalitis, we have an involvement of the face which simulates a facial neuritis of the peripheral type, but it is not the same thing. We are frequently running into cases in which we have central involvement of the cranial nerves as in a very recent issue of one of the neurological journals. Dr. Wallader of New York reports this case of central type neuritis.

The reason I mention these cases associated with encephalitis and peripheral neuritis associated with encephalitis in the prognosis is not as good as it is in multiple neuritis. I had a case in

which the cranial nerves were involved associated with peripheral neuritis of the motor type in which the patient's medulla became involved, the nerves of swallowing and of speech became involved, and it presented, as you might imagine, a very difficult problem and the patient went on to a fatal outcome. H. Patrick of Chicago was one of the first back in 1916 to completely review the literature in regard to a double facial paralysis as a part of a multiple neuritis. He had several cases and those cases had a favorable outcome. Several years ago I heard him talk on this same subject, and he warned the Association of Neurologists, that these cases always had a favorable outcome, but the last time he had been called in consultation on this particular type of case, the outcome was likewise fatal.

The removal of foci of infection during an attack of acute multiple neuritis, it seems to me, is a very delicate problem, especially in these cases where we have central involvement or cranial nerve involved. One should be on the constant lookout for the possibility of early involvement of nerves controlling deglutition. It is an easy matter to confuse these cases where we have a double facial involvement of nerves controlling deglutition. It is an easy matter to confuse these cases where we have a double facial involvement with other diseases such as myasthenia gravis where the patient has an involvement early of his facial muscles. I have had that very thing occur to me. I mistook a case of myasthenia gravis for a case of facial diplegia and the patient died.

The thing goes in waves and you mistake one of these waves of recovery as being due to recovery from multiple neuritis, and perhaps if the patient drifts away from you, the next thing you hear is that the patient is in a very serious state of affairs. That very thing, I must confess, happened to me. I mistook that for a case of multiple neuritis. There was the same condition of the eyes, the patient was unable to close either eye just as we get in a peripheral type of facial paralysis. The next thing I heard was the patient was unable to swallow, unable to eat, and he had to have a gastrostomy type of operation and was fed artificially through a tube. This case was reported as being the only case of myasthenia gravis ever being saved by that means. I think Dr. Addison, the neural surgeon, reported it.

In the ordinary types of case such as Bell's palsy, where there is just one side of the face involved and that perhaps mild, it seems that Dr. Corley's suggestion about removal of foci of infection could be carried out. That was formerly thought to be caused by exposure to cold. We know now that it is due to focal infection either of acute and long standing type, and frequently they are relieved much the same as the peripheral type of patient would be which occurs coincident with the secondary type of eruption in lues.

Chairman Jennings: Are there any further discussions? I might mention myself several cases that I have had very briefly. The first was a patient just two years ago who had a very severe pharyngitis, apparently one of epidemic of several serious cases, one of whom died, another one of whom developed a double empyema. This patient was treated after these other two had occurred. His symptoms were extremely severe with dyssemia and extreme prostration. As a chance, we treated him with antistreptococcus serum. He immediately recovered of the attack and left the hospital apparently well.

A very short while afterwards he came back with a marked muscular weakness and had a flaccid paralysis of his legs and partially a paresis of his arms with loss of reflexes without sensory change. Dr. Patrick saw the patient and made an absolute diagnosis of poliomyelitis. He did, however, completely recover in every way in a short time without any residual paralysis which makes us feel that it was not a case of infantile.

Another case comes to my mind of a man having a definite paresis, not of severe type or not of the advancing type. He had a great deal of pain in his body and legs which, at the time, I attributed entirely to his non-degenerative disease. He was not satisfied, however, and some definitely infected hemorrhoids were discovered. Upon the removal of these his pains entirely cleared up and he has been well of that since.

Dr. Cecil Corley (Jackson), closing the discussion: In answer to the doctor's question regarding pregnancy, that suggests multiple neuritis, but I think you mentioned edema. I have never had any case of neuritis in pregnancy. Frankly, I believe the reason is a toxemia of some kind which would cause both the neuritis and edema.

However, I have had no experience with that type of case.

I am glad Dr. Currier mentioned the removal of these foci during the acute attack. In all these three cases I reported, it was a matter of having to do something, and the three of them were getting rapidly worse.

I remember one had auricular fibrillation at one time. He had a very severe myocarditis, and I had Dr. Plinn Morse of Detroit look at him. His remark was that he was going to die if we didn't do something so why not go ahead and try everything to give him a chance. As a matter of fact, none of these patients suffered any ill effects from the removal of the foci. I was very much surprised that they didn't because they were all very sick individuals, with rapid loss of weight, emaciated, and rapidly going down hill.

In view of that, I think we should be able to recognize those cases a little sooner and remove their foci before they get to the extreme stage. When it is a progressive thing and none of the measures you can carry out seem to give relief, I think it is wise to go ahead and remove the foci at some risk before they get to the extreme stage of these three cases which I am reporting.

CAUSES OF MORTALITY IN APPENDICITIS

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Probably one of the chief causes of the still high mortality in acute appendicitis, is the fact that medical treatment is given when the treatment should always be surgical. By this we do not mean that patients should always be advised to have immediate operation upon the first attack of carefully diagnosed appendicitis, but that appendicitis should always be viewed from a surgical rather than from a medical viewpoint.

The education of the laity must follow further education of more physicians regarding the important part which delay in operation plays in the death rate.

There will be times when even the most experienced clinician is puzzled regarding certain types of appendicitis, but if appendicitis is carefully considered in the differential diagnosis, little harm will follow the delay of a few hours.

One of the most dangerous general treatments is the promiscuous use of the ice bag when patients develop a pain in the side or suspected appendicitis. It is not uncommon for patients to prescribe an ice bag for themselves, when they have an acute attack of abdominal pain in the right side, before consulting a physician, because they have heard of some one who has had appendicitis cured by the ice bag. Often when a physician makes a diagnosis, the patient wishes a further trial of the ice bag, rather than submitting to operation, even when advised regarding the seriousness of delay. Just what good the ice bag accomplishes in acute appendicitis, we have never been able to convince ourselves. It masks the symp-

toms and we think is much more dangerous than a full dose of morphine given in a well marked attack. After an ice bag is applied for a few hours, the examining clinician can get very little idea of the rigidity or muscle spasm present. When an ice bag has been used ten or twelve hours or more this muscle spasm and rigidity is absent entirely as far as the palpating hand can discern, then one must depend only on the history of the case, the onset, character of pain, vomiting, nausea, fever, blood count, etc., and these later symptoms may be misleading, or absent as the most important early symptoms are those of muscle spasm.

Cathartics: When patients are first seen by their physician, it will be found that a large number of them have taken cathartics as soon as they have general abdominal pain. It may be possible that early cathartics may not cause much damage, but we are quite convinced that the giving of any cathartics in suspicious appendicitis is dangerous, as it aids and

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causes spread of infection, and also hinders an early diagnosis. As a rule, I believe that cathartics should be avoided, and the laity instructed not to resort to them in cases of acute abdominal pain, until the patient has been examined by a physician.

Blood Count: While the white and differential blood count are very important aids in diagnosis of the usual acute case of appendicitis, even in very severe cases there may be a normal or nearly normal blood count. Blood count is also of value in differential diagnosis in suspicious appendicitis and pneumonia, and in differential diagnosis. When possible, a blood count should always be made as an aid in diagnosis, the same as we elicit the pulse rate, and take the temperature. To have hourly blood counts, or repeated blood counts made, when the clinical symptoms of acute abdominal pain and muscle rigidity are present, may be very dangerous.

Temperature is of very little value in acute appendicitis. In a large number of acute gangrenous cases the temperature will not be more than 99 or 99½ or 99 6/10ths.

Retro-cecal Appendicitis: This is a very dangerous type. Here the pain is absent in the right iliac fossa, but slight tenderness and resistance can be found there, and the tenderness can usually be found along a line drawn from the umbilicus to the tip of the eleventh rib. When the tip of the appendix is upward toward the liver, the pain may simulate that of cholecystitis. This type of appendicitis may also cause symptoms in the genito-urinary tract by pressure on the ureter.

The Pelvic Appendix: Here we do not find tenderness over the right iliac fossa, but over the pelvic brim or supra-pubic area. In this type we may have diarrhoea and frequency of micturition. Vaginal and rectal examination will reveal spasm with marked resistance to the abdominal pressure in a bimanual examination. The early onset of a chill accompanying pain in the retro-cecal or pelvic region strongly indicates acute gangrenous appendicitis. Vomiting usually does not occur early.

We question whether the appendix ever becomes normal after an acute attack, if moderately severe, and even if it does not cause further disability, may act as an infective agent, as a factor in the production of emboli causing cholecystitis, and ulcer of the duodenum.

The infection of the appendix ends in resolution or non-resolution.

1. Resolution—this leaves the patient subject to recurrent attacks of appendicitis.

2. Non-resolution: Here we may have local peritonitis and abscess formation or diffuse peritonitis. The clinician must remember that it is quite impossible to foretell with accuracy the ultimate results of an attack of acute appendicitis seen in the early stages.

X-Ray in Diagnosis: We believe the X-ray is of little or no value in acute appendicitis. We advise against the use of X-ray in suspicious acute appendicitis, as it may be misleading to the clinician. If the appendix fills (it usually will not fill in acute gangrenous types or exudative types) we would not consider it nearly as dangerous as the acute case with a swollen gangrenous appendix which is already filled with pus and is edematous, so that obviously no barium could enter. We feel that the addition of the barium meal in the presence of acute suspected appendicitis is a very dangerous procedure.

Age. We have been surprised to note both in the opinion of the laity and of physicians that it is thought this disease attacks only the young. Our records show that we have had patients with acute primary gangrenous appendicitis 81 years old.

*Records from the Detroit board of health the first six months of 1928 show a mortality of 8 deaths after the age of 60. This we do not believe is an index to the actual number of deaths, as we feel that a number of mistakes are made in diagnosis in which the deaths are attributed to other causes which are actually those of acute appendicitis and peritonitis.

SUMMARY

It is well to consider appendicitis in every patient examined who complains of acute abdominal pain, no matter what the location. We must remember that an appendix does not always occupy the position of Burney's point. It is often on the left side, deep in the pelvis, or retro-cecal in addition to the high retro-cecal position, which simulates gall-bladder disease. It will require a wide clinical experience to properly diagnose early in some of these cases. When a diagnosis has been made, prompt operation is very important if we wish to lower the mortality in this type of appendicitis.

The early emergency operation for acute appendicitis has a very low mortality and the most elaborate operation with a skilled clinical team and nursing has a high mor-

tality after late operation when peritonitis is well established.

Enterostomy is a very important life-saving measure associated with delayed operations in which there is accompanying small bowel distention.

TABLE NO. 1

Last 50 Cases of Ruptured Appendicitis

33 males—17 females

Youngest 1½ years—Oldest 75 years—Average age 28 years

28% under 10 years of age.

30% between 10 and 30 years of age.

22% between 30 and 50 years of age.

20% over 50 years of age.

Average duration of symptoms—5 days.

18% of cases had cathartics.

22 cases general peritonitis

28 cases localized peritonitis.

6 cases died.

2 cases died.

TABLE NO. 2

Deaths From Appendicitis by Age Groups

Detroit, 1926-1927 and the First Six Months of 1928

Year	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80	Total
1926	1	1	1	1	1	1	1	1	1	10
1927	1	1	1	1	1	1	1	1	1	10
1928*	1	1	1	1	1	1	1	1	1	10

1926	22	47	62	59	43	24	12	.....	.....	269
1927	34	45	52	61	36	29	6	3	.....	266
* 1928	20	20	28	23	16	11	5	2	1	126

* First 6 months.

From records of Detroit Board of Health.

TABLE NO. 3

Deaths From Appendicitis, 1910-27

Year	No. of Cities	Population	Deaths	Death rate per 100,000
1910	60	18,656,436	2,480	13.3
1911	60	19,118,117	2,616	13.7
1912	50	19,569,879	2,712	13.9
1913	60	20,040,600	2,818	14.1
1914	60	20,503,331	2,948	14.4
1915	60	20,965,052	3,042	14.5
1916	60	21,426,774	3,175	14.8
1917	60	21,888,494	3,167	14.5
1918	60	22,350,216	2,907	13.0
1919	60	22,811,937	3,114	13.7
1920	60	23,273,662	3,644	15.7
1921	60	23,725,583	3,899	16.4
1922	50	24,177,504	3,936	16.3
1923	60	24,630,425	4,196	17.0
1924	60	25,082,945	4,338	17.3
1925	60	25,130,435	4,430	17.6
1926	57	25,952,914	4,500	17.3
1927	58	26,468,067	4,622	17.5

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ELECTRO-CARDIOGRAMS AND THEIR CLINICAL SIGNIFICANCE

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From time immemorial, man has been a sign-writer, a short form indexer of events and information. In cuneiform, symbols, hieroglyphics, rock pictures, down to the invention of shorthand and the Morse Code, he has sought to transmit knowledge with a maximum of accuracy and a minimum of manual effort. With the advent of electricity the process has been intensified, so that weather, earth tremors, temperature, a thousand and one disturbances, mechanical and functional, have been harnessed instrumentally to the end that their variations and every movement may be recorded automatically in some permanent form, and he who reads and is willing to learn may know without peradventure just what the significance is.

The graphic chart on which wavy lines are written automatically, is quite familiar to everyone. These lines or symbols, may be a varying temperature record, or the precise charting from hour to hour of a particular machine's output or a motor's load. The up and down strokes and curves represent the pulse from which the initiated can read the symptoms of irregularity and apply remedies if remedies are needed or available.

The human heart may be compared to the motor. It is confined within a very small space; it must be quiet, frictionless, self-starting and self-adjusting, so that it may respond instantly to calls for heavier work, and yet be capable of slackening down when the demand is lessened. It must furnish its own repair material, and apply repairs without stopping the machinery or becoming disconnected from the load. It must be in order and working 24 hours a day for its owner's lifetime. It is

a most powerful and complex machine, and its complex activities can now be charted by mechanical means, studied and interpreted.

It is not my purpose to go into a minute description of the particular agency which thus records mechanically movements of the human heart, and time forbids that I detail the process and manner of its employment. Suffice it to say, that each muscle bundle of the heart as it contracts, generates its own particular electric current, and these currents are collected by wires attached to the limbs of the person under examination, passed through a fine filament between the poles of a powerful magnet, the filament swaying back and forth according to the quality of the current passing through it, and by an optical arrangement producing a moving shadow which is photographed. The resultant print is an exact picture of the activity of the heart while under examination—is in fact, an electro-cardiogram, the hieroglyphics of chiro-cardiography.

An electro-cardiogram is an autograph of a succession of events occurring within the cardiac walls, and like the autograph of fingerprints of a person, it always differs

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from the autograph of every other person. In disease, the variations from the normal rhythm are faithfully photographed with each contraction of the heart, and the expert interpreter of the graphic chart is in position to make a more thorough investigation of the condition of the heart muscle than has been possible through palpation, precussion and auscultation. The niceties of diagnosis and the clarity of prognosis are immeasurably increased with the employment of this latest recruit to medical science. The electro-cardiograph is not an experiment nor a mere delicate plaything of the laboratory investigator. It is an everyday tool of the modern clinician, in its sphere equally as necessary and indispensable as X-ray examinations of the chest.

What then is the practical value of the electro-cardiograph to the general practitioner, and what interest should he have in electrocardiograms? The answer to the latter question is all-embracing. He must dismiss from his mind the thought that the graphic chart written by this cardiac stylus is a distinct and forbidden language only to be deciphered by savants fit for companionship with the patient porers over Chaldean brick or musty Ptolemaic Papyri. Electro-cardiography is an easy universal key, a scientific sign-writing, a record of great precision and diagnostic value, an essential written supplement to information acquired by the ordinary methods of clinical investigation, at once understandable by the average physician who cares to rend a mystic veil, which in the final analysis is not so very mysterious, by heeding certain signs and unvarying indications, in a conscientious desire to add to the summum of his already acquired knowledge.

Now then for a short exposition of the *modus operandi*. In taking an electrocardiographic record, the common practice is to accept three leads which I will describe as follows:

Lead I. (transverse) from the right and left arms.

Lead II.—(axial) from the right arm and left leg.

Lead III.—(Left lateral) from the left arm and left leg.

This has been the custom since Einthoven first employed the string galvanometer to register changes in electric potential in the human heart, and is productive of the best results today. The reason for this is that the apex of the heart points to the left, so that the best

lines for observation of the differences of potential are—across the top of the heart between the arms; the axis of the heart between the right arm and left leg; the left side of the heart between the left arm and left leg.

With the patient "harnessed up", normal conditions observing, and the electric current turned on, we will assume that the string has oscillated and been standardized, the photographed shadows developed and printed. The base line is the shadow of the string when no current is passing through it. The reading of the leads is the next step to be achieved, and in this connection Lead II is first in importance in the information it conveys.

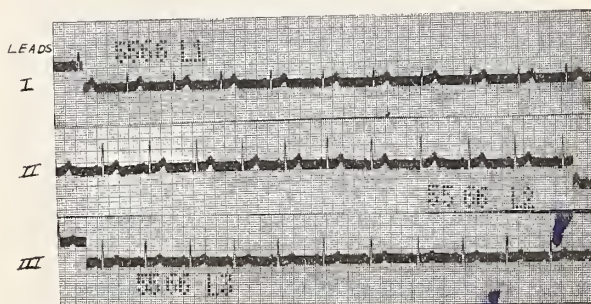


Figure 1.
Normal Electrocardiogram.

A normal heart will have an electrocardiogram something like Fig. 1. You see a series of waves succeeding each other in systematic undulations practically mathematically alike. And their schema I will endeavor to make plain:—as the auricle contracts it produces a P wave which is usually a little mound above the base line; the ventricle becomes active from the blood coming from the auricle and causes a little downward dip called a Q wave which leads on to the chief activity of the ventricle represented by the R wave, resulting from the closing of the mitral and tricuspid valves and the opening of the aortic valve, whereupon the ventricles contract and squeeze the blood into the pulmonary artery and aorta as represented by the S and T waves. In a word, that portion of the electro-cardiogram from the beginning of P to the commencement of Q is called the auricular complex, and that portion between the commencement of Q to the end of T is called the ventricular complex. The interval between T and the following P represents diastole. P may be up or down; Q is always down; R is always up; S always down; T may be up or down.

An approximate normal may be given for the factors of order in which waves may be expected to occur, direction up and down, the height of the climb or depth

of the dip, also duration, yet it must not be forgotten that there is a considerable variation in electro-cardiograms without one being able to say whether or not they lie outside of the domain of the normal. Respiration, exertion, and the position of the heart, all have a modifying influence, and the electro-cardiogram as an expression of the heart's activities is but a relative interpretation to be considered with all the other factors of a person's physical and mental make-up. It may be here stated that the minor waves are relatively of less significance, the vital information comes from interpretations of the P R and T waves connected with the systole of the heart.

Regularity of the heart beat is shown in even spacing of the distance between successive R waves, while unequal spacing clearly evidences irregularity. One more physical feature remains to be explained—the delicate cross lines forming squares, which serve to measure the height and width of the heart waves, and as a gauge for timing the cardiac events.

So much for a "normal" electro-cardiogram; let us now advance to an abnormal one.

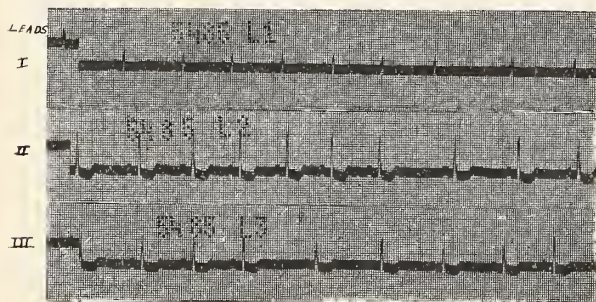


Fig. 2
Sinus Arrhythmia.

Represents a true case of Sinus Arrhythmia, also known as "The Youthful Type of Irregularity." It is frequently encountered in the records of children and young adults, and is probably due to vagal influences and likely to disappear with maturity. The commonest example is a slight quickening of the heart's action with inspiration, followed by a corresponding slowing on expiration. The irregularity is confined solely to the diastole period of the record and the gradual lengthening of the waves may be noted, the normal sequence of the auricular P and the ventricular Q-R-S-T waves remaining undisturbed. May I here interpolate that this irregularity was formerly supposed to be a form of heart disease necessitating a life of semi-invalidism. The electro-cardiograph has

probably done more to dispel this fallacy than any other agency. The abnormality is so common as to be practically normal, and its detection entails little or no treatment.

We will now proceed to some examples of paroxysmal tachycardias which are characterized by the sudden onset of a series of responses of the cardiac muscle to impulses, arising at a high rate of speed from a single irritable focus other than the normal pacemaker. The terminations are characteristically abrupt and may be followed immediately by a pause similar to the compensatory pause seen after a single premature contraction. Paroxysmal tachycardia may be of auricular or ventricular origin, or it may originate in the A-V node.

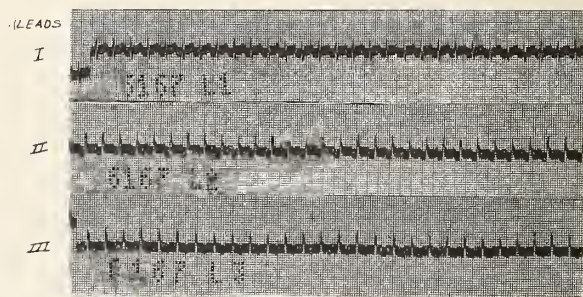


Fig. 3
Paroxysmal Auricular Tachycardia.

Charts a true case of auricular tachycardia, the heart responding to stimuli from a misplaced or ectopic pacemaker in the auricle, the P wave being abnormal either inverted or superimposed on the T wave. The R wave is usually normal, while the T wave is hurried and distorted.

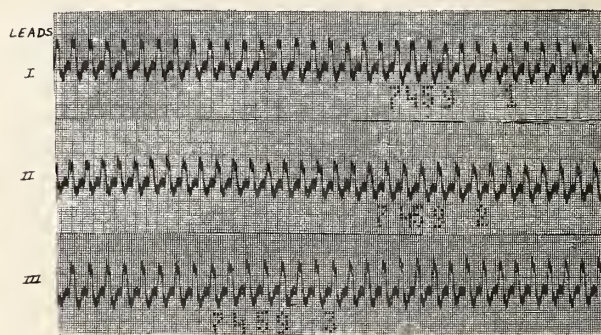


Fig. 4
Ventricular Tachycardia.

Charts a case of paroxysmal tachycardia of ventricular origin, the R wave being abnormal in form for a succession of four beats or more and the P wave lost sight of in the abnormal ventricular complex. It is worthy to note that the number of cases of paroxysmal ventricular tachycardia detected have been substantially increased

since the electrocardiograph has been more widely used.

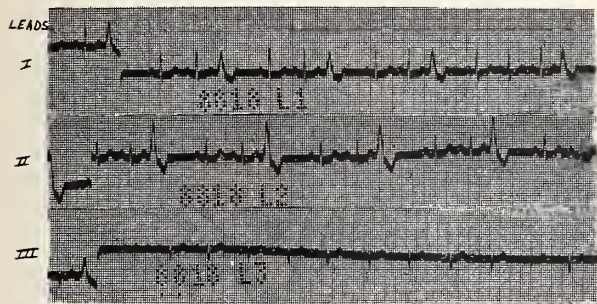


Fig. 5
Ventricular Extrasystoles.

VENTRICULAR EXTRA SYSTOLE

This is nothing more or less in effect than an earlier day definition of what is now called "premature contraction of the ventricle," and can be identified in the graphic record by a premature beat either very closely upon the P wave of that contraction, or else the P wave may be buried in the distorted ventricular complex. If occurring in the right ventricle, the R wave is up in Lead II, and down if of left ventricular origin. In this condition there is usually a disturbance in rhythm due to what is known as the "compensatory pause," which means that when the ventricle is stimulated during contraction, it will not respond to the stimulus but waits for the next stimulus from the auricle. There is a normal evenly shaped P R T complex with a bizarre shaped wave thrown in, equal in width to any of the normal preceding R T complexes, indicating that it comes from the ventricle. Normal P waves are occurring in this abnormal complex indicating that the ven-

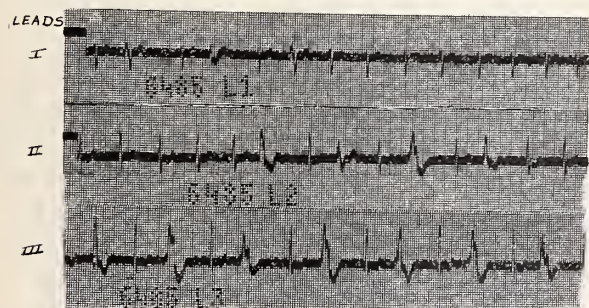


Fig. 6
Auricular Fibrillation. Ventricular Extrasystoles with Periods of Bigeminy.

tricle has already contracted and is now unable to respond. There is then a pause until the next P wave—the "compensatory pause."

Auricular Fibrillation is characterized by two outstanding features—absence of all

signs of normal auricular contraction and marked irregularity of the ventricular beats—a trembling paralysis of the auricle, as it were, with the ventricle unable to keep up the pace. The electrocardiogram shows a total absence of P waves but in their place countless little tremulous lines, each of which represent a tremor. R T waves of varying size are also shown in irregular rhythm.

Shows such a record with a ventricular extra systoles as evidenced by the peculiar shape of the R T waves, the beats here occurring in pairs, true evidence of bigeminy.

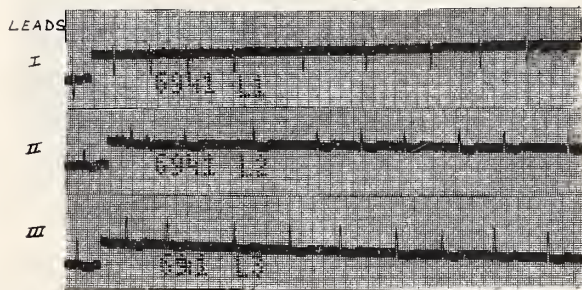


Fig. 7
Right Ventricular Preponderance. Auricular Fibrillation.

Shows a preponderance of the right ventricle along with auricular fibrillation. There is little or no sign of the R wave in Lead I, while the S wave is large.

Auricular fibrillation always indicates myocarditis—it may be transient, especially in pneumonia, goiter, acute fever, and never occur again, while it may last for years, and the patient becoming accustomed to the new rhythm may carry on fairly comfortably on a lower level. There are cases on record where fibrillation continued present for 15 years, one in particular where the onset did not occur until the patient was nearly 50 years old.

On the subject of ventricular preponder-

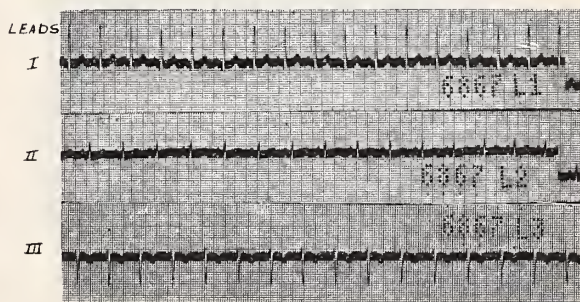


Fig. 8
Definite Left Ventricular Preponderance.

ance, it may be here mentioned that this term is used to indicate the relative increase in weight of one ventricle as compared with that of the other. It is in no sense synonymous with hypertrophy, and

can be diagnosed in the electro-cardiogram from the study of the Q R S complex in Leads I and III. If the R is high in Lead I, and has a downward deflection in Lead III, preponderance of the left ventricle is indicated, while the reverse of these conditions indicates right preponderance.

Is an example of definite left ventricular preponderance.

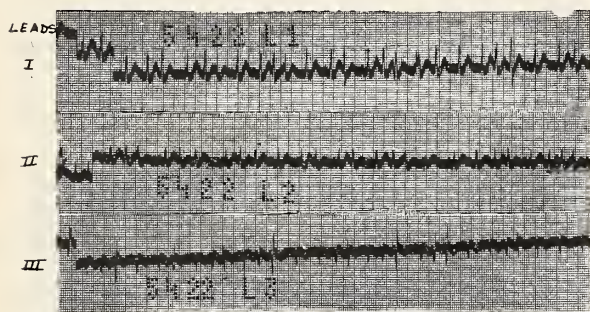


Fig. 9
Auricular Extrasystoles.

AURICULAR EXTRA SYSTOLE

The most frequent disturbance of the cardiac mechanism is due to premature beats—extra systoles—and the electro-cardiograph will always show the part of the heart from which they arise. Fig 9, shows an abnormal P wave occurring prematurely, and this is followed by the ventricular contraction. We know that the excitation wave comes from above the ventricles because the P wave is present. The center of this abnormal contraction is outside the S A node. The S A node sends out the next contraction before this center of excitation sends out another wave because the record shows us the following complexes are normal.

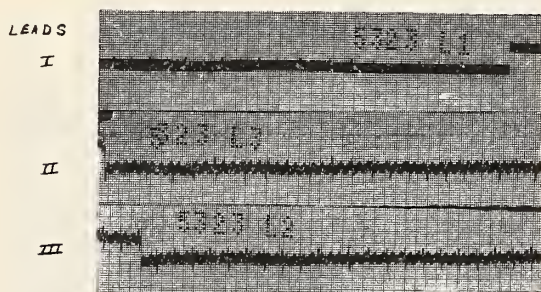


Fig. 10
Auricular Flutter.

Auricular flutter is a condition of the auricle in which it responds to a continuously circulating wave, the course of which may be constant or inconstant from cycle to cycle—pure or impure. This condition may be transient or persistent and occurs chiefly in elderly people. It is probably de-

pendent upon pathological changes in auricle such as fibrosis or myocarditis due to arteriosclerosis or infection. In this condition the auricles beat at a rate of 240-320, and this rapid rate is due to a circus movement revolving round the vena cava. Fig. 10 is a good example of pure auricular flutter with a ventricular rate of 150 and an auricular rate of 450. The P waves as they hit the base line quickly rebound, every third one showing an excitation of the ventricle. Mines has described this movement as a wave of contraction passing around a ring so that there is a refractory period of such length as to allow it to pass as the crest of the wave approaches it.

Auricular flutter is a relatively rare condition and is difficult to recognize without instrumental methods of investigation. There is usually a history of previous attacks of palpitation associated with substernal distress or actual pain. If correctly diagnosed the great majority of cases respond to treatment and that often in a dramatic manner. I read recently of a case occurring in an infant four months old, which would seem to be a rare anomaly in this case complete rest and digitalis was helpful, but did not prevent recurrence.

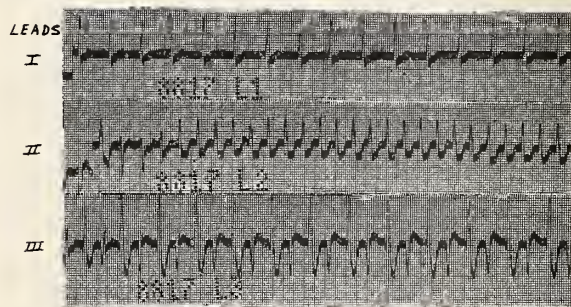


Fig. 11
Independent Ventricular Rhythm. Digitalis Intoxication.

My next graphic record is a tracing of a heart laboring under digitalis intoxication, and I am including this to show how the electro-cardiograph is of supreme use in controlling the administration of this potent drug, which must be given in massive doses in most cases in order to secure

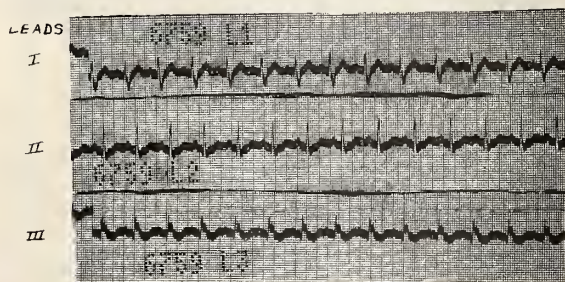


Fig. 12

the desired effect. The T wave is inverted and of U shape in digitalis poisoning, and when this phenomena appears on the chart it is a warning to discontinue the use of the drug. This slide also shows an independent ventricular rhythm.

We now come to an abnormal condition of the heart which until the advent of the string galvanometer, was not only very difficult of diagnosis, but when diagnosis was attempted, it was usually very unsatisfactory. I refer to heart block, which signifies the blocking of the excitation impulse at some point along its course. In other words, the muscular and nerve interconnection between the auricles and the ventricles is so interrupted that they beat independently of each other, the particular parts involved being the A V node and the bundle of HIS. There are different types of heart block, each receiving its name from the part of the conduction system involved. The blocks may be partial or complete.

Fig. 12 is an example of left bundle branch block occurring in the left bundle branch of HIS. The major curves in Leads I and III are slurred, and there is a delay in the Q S interval. This condition is associated with myocarditis.

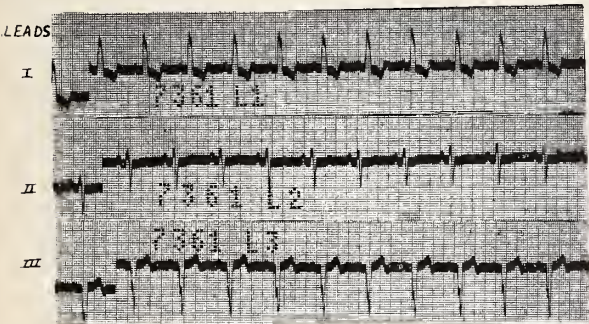


Fig. 13
Left Bundle Branch Block.

Is right bundle branch block, also associated with myocarditis. R and S are slurred and are in opposite directions in Leads I and III.

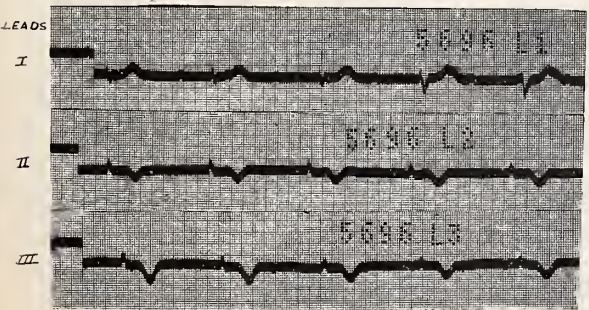


Fig. 14
Complete Heart Block.

The next tracing, Fig. 14, is an example of auricular-intraventricular heart block in which the whole system of impulse conduction from auricle to ventricle is blocked. This may be caused by lues, toxins, or structural lesions of any sort which automatically block the impulse. In such a case the auricles and ventricles beat absolutely independent of each other.

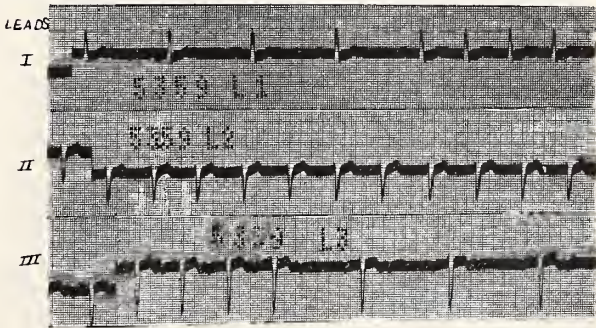


Fig. 15
Incomplete Right Bundle Branch Block. Partial Heart Block.

Records a case of right bundle branch block (incomplete). In Lead I the first four ventricular beats occur while the auricle beats eight times, and the last four of Lead III show a like phenomena.

Before exact methods of taking heart records came into practical use, recognition of heart block was more or less of a hit or miss proposition. Certainly our knowledge of partial heart block was slight, which condition invariably went untreated until the grave condition of complete heart block established itself. Heart block may be caused by infection—abscessed teeth, septic tonsils—sinus infections, appendicitis, rheumatism. It may also be the result of fibrosis, atrophy, coronary disease, lues, etc. Whatever the cause, specific diagnosis can only be arrived at through a thorough understanding of the conduction system and accurate interpretation of graphic records of the heart action. The

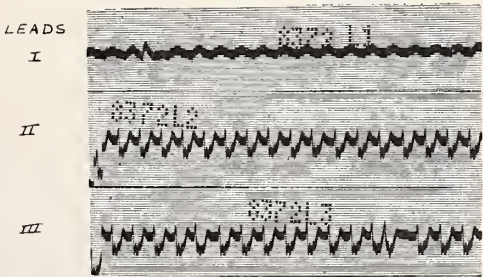


Fig. 16
Case of Coronary Thrombosis. Intraventricular Block.

type of heart block and degree of myocarditis present must be ascertained in order that the best possible service may

be rendered the patient. And the electro-cardiograph plus the ordinary methods of examination should be intelligently used to the proper attainment of this end.

Is a case of coronary thrombosis with intraventricular block, and this case is peculiar inasmuch as the electro-cardiographic diagnosis was confirmed by post mortem. You will note the regular bizarre shaped complexes which are difficult of interpretation.

My discourse today is primarily aimed at the general practitioner who is possibly laboring under the fixed idea that any paper which embraces electro-cardiograms is a dish for the connoisseur, something to be passed up as one would an unintelligible foreign-sounding menu. To the physician who has a broad knowledge of internal medicine, and who is willing to devote time to learning just what electro-cardiograms represent, I would say that interpretation requires a greater degree of common sense than technical knowledge. A layman can be taught to take the pictures correctly, but it requires the physician with practical experience in histories and physical examinations to properly evaluate them in terms of diagnosis, prognosis and treatment. The necessary studies will give him a better understanding of the physiologic and pathologic changes of the heart. They will help to confirm or refute the decisions come to as a result of intelligent use of his fingers, eyes and ears.

I do not presume to say the electro-cardiograph should be in every physician's office, for probably the preparation and interpretation of electro-cardiograms will be intrusted for some time to come to the

internist who has made a special study of the subject. But I do affirm this—the physician who desires to keep abreast of the times should familiarize himself to a working degree with all new facts and methods, and he who cannot interpret the chirography of the human heart with at least a modicum of intelligence, will be deficient in a method which is now becoming an integral part of modern medical practice.

Electro-cardiography identifies irregularities of the heart, tells where defects exist, and helps to differentiate between harmless abnormalities and those which indicate grave lesions. Investigation of heart action by this graphic method tends to create fresh interest in internal medicine for the general practitioner. He will acquire more definite knowledge of the various murmurs, arrhythmias and heart blocks. His whole conception of cardiac disease will be changed, and decidedly for the better. Instead of waiting for the post mortem report of the pathologist, he is presented with an opportunity to envision the living myocardium as he has never done before.

In the preparation of this paper I have relied largely, on personal clinical studies guided principally by the monumental work and writings of Sir Thomas Lewis, the monographs of Doctors S. Calvin Smith, Bishop, Pardee and Reid. To my friend, Dr. F. N. Wilson of Ann Arbor, I am particularly indebted. He has been preceptor par excellence, mentor in difficulty, and more than stimulant to the enthusiasm I have for this splendid addition to our armamentarium of medicine.

COMFORTABLE EXERCISE HELPS DIGESTION

A gentle stroll after meals, especially if taken with an agreeable companion, will not retard digestion of the meal and may even help it. However, running a mile or two, unless you are a star sprinter, will delay the rate at which the digestive juices in the stomach are secreted and will also delay the emptying of the food from the stomach, and you will find yourself having "indigestion." Experiments made by J. M. H. Campbell, G. O. Mitchell and A. T. W. Powell and reported in Guy's Hospital London Reports have shown the effect of rest and of various kinds of exercise on the digestion of a light meal. The experiments were made on young men who, after eating similar meals, rested, walked alone, walked with friends or ran 2 or 3 miles slowly. For those who were used to running several miles a

day, running 2 miles slowly was not enough exercise to retard digestive processes, whereas for men who were not so fit, even walking quickly for an hour was enough to delay these processes. Exercise which makes you uncomfortable delays digestion while that which causes no discomfort helps, these investigators found. The reason probably is that exercise which produces discomfort and delays digestion also causes flushing of the skin and enlargement of the blood vessels of the skin, with a resulting temporary anemia, or lack of blood, in the stomach. The stomach, like every other organ, depends on its blood supply and cannot work well when this is interfered with. This same effect is observed when a very hot bath is taken immediately after a meal. The blood is all drawn to the skin and digestion is delayed.—Science Service.

PARTIAL HEART BLOCK IN UPPER RESPIRATORY INFECTION

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It is matter of common knowledge that in cases of acute rheumatic fever there is a high percentage of cardiac involvement. This is equivalent to stating that acute rheumatic fever is a systemic disease localizing variously in joints, in the brain, in serous membranes, in fibrous tissue, but especially and most commonly in the heart. During the early and pyrexial stage of the disease the evidence that cardiac involvement has occurred must rest on the finding of unusual tachycardia, pericardial friction, change in heart sounds and the appearance of murmurs or arrhythmias, such as auricular fibrillation, on clinically determined heart block and, finally, on electro-cardiographic changes. The latter changes occur in 92 per cent of cases of acute rheumatic fever and are those of varying degrees of heart block, (in 42 per cent), arrhythmias and changes in the form of the ventricular deflections (1) and (2). It is also well known that diphtheria affects the myocardium very frequently, and a number of cases of partial and complete heart block occurring during this disease have been reported (3), (4) and (5).

It may not, however, be appreciated—perhaps we have never looked for it—that in other infections, usually streptococcic, affecting the upper respiratory tract, such as tonsillitis, sinusitis, pharyngitis and bronchitis, there may be much more definite cardiac damage than is usually demonstrated. This has been especially so in this clinic during the recent spring epidemic of upper respiratory infections. It has occurred in young people who had formerly never had any symptoms or signs of heart trouble, nor history of rheumatic infection, and whose hearts were apparently free from previous permanent damage. The initial infection has not seemed unusually severe. The patients have, however, complained of very slow return of strength and it was only with the restoration of a feeling of well being that the evidence of cardiac damage disappeared. We wish to briefly report four such cases recently seen by us.

REPORTS

Case No. 1. (S. T. Case No. 107787): This was a mulatto woman aged 46 years, seen by us April 13, 1928. She came for general examination because her daughter said she "looked bad." She stated that two weeks previously she had had a severe head cold with sore throat lasting about a week. She had not regained strength. There was an occasional sharp precordial pain, not anginoid, and slight dyspnoea and palpitation on exertion. There were no past illnesses.

Examination: Temperature 99.6 degrees, weight

125 pounds (estimated weight 144 pounds). There was no cyanosis or dyspnoea. The teeth were in poor condition with many snags. The tonsils were small and the fauces injected. The left maxillary sinus was cloudy upon transillumination. The thyroid was irregular. The lungs were clear. The cardiac apex beat was 9 c.m. to the left in the fifth interspace. The relative cardiac dullness was 3 c.m. to the right and 11 c.m. to the left. The cardiac rhythm was regular, the rate 60. The second sound at the apex was split and a short systolic murmur was heard at the apex. The radial pulse was regular, the artery wall palpable, and the blood pressure 118 m.m. systolic and 62 m.m. diastolic. There was no evidence of congestive cardiac failure.

The maxillary sinus washings returned clear. Chest plates were negative. Dental films showed complete absorption of the alveolar process about most of the teeth. Laboratory findings: Blood count, R.B.C., 4,140,000, hemoglobin 75 per cent, W.B.C. 12,400 with 70 per cent polymorphonuclear leucocytes. The urine showed two plus leucocytes. The blood Wassermann was negative, the blood chemistry normal and the blood culture negative.

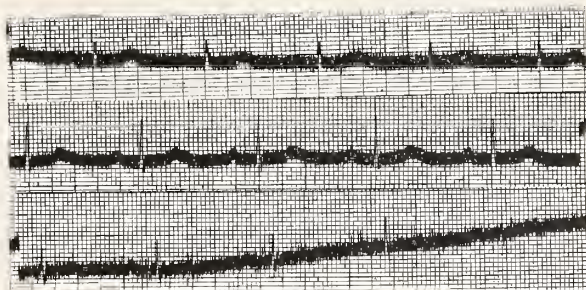


Figure 1

The patient was put to bed April 16, with a temperature of 102 degrees. By April 21 the temperature had become normal and the patient was discharged. No medication was given. The

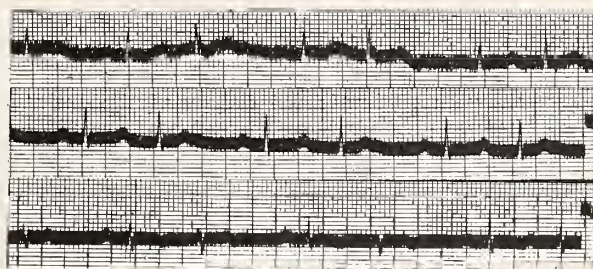


Figure 2

* Dr. Colvin graduated from the University of Toronto 1923. He is associated with the Henry Ford Hospital, limiting his work to cardio-respiratory diseases.

patient was seen again May 7 and was feeling perfectly well.

An electrocardiogram was taken April 18 (Fig. 1), which shows a 2:1 partial heart block, the alternate P waves being superimposed on the T waves. Every other beat is followed by a ventricular response, the PR time being .24 seconds. A second electrocardiogram (Fig. 2) was taken April 20. This shows still a partial block with a 3:2 ventricular response. After each dropped auricular beat the PR time is .20 seconds and before the dropped beat .33 seconds. A third curve (Fig. 3) was made May 7 and is entirely normal with a PR time of .14 seconds.

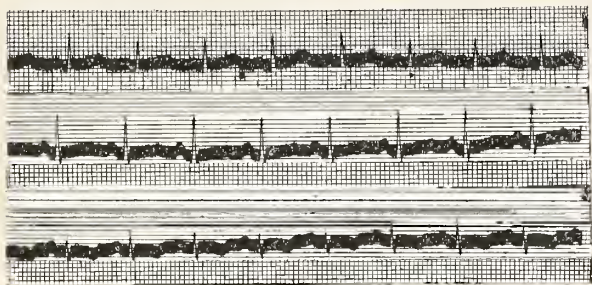


Figure 3

Case No. 2. (E. F. Case No. 107887): This was a young woman of 36 years, a librarian. She came to us April 16, 1928, stating that she had had a very sore throat five weeks previously lasting 10 days. Associated symptoms were general malaise and muscle pains; and she stated that she had not been strong since. There was no history of dyspnoea, palpitation or oedema. The past health had been excellent except for influenza in 1919.

Examination: Temperature 98 degrees, weight 116 pounds (estimated weight 143 pounds). There was no cyanosis or dyspnoea. The pupils were equal and reacted to light. There were four devitalized teeth present. A small amount of recurrent tonsillar tissue was noted. The maxillary sinuses transilluminated well. The thyroid isthmus was irregular. The lungs were clear. The cardiac apex impulse was 9 c.m. to the left in the fifth interspace. The relative cardiac dullness was 3 c.m. to the right and 10 c.m. to the left. The cardiac rate was 90, with a regular rhythm and a definite gallop heard only with the patient supine. The pulmonic second sound was accentuated. There was a soft systolic blow at the apex. The radial pulse was full, the artery walls soft and the blood pressure 110 m.m. systolic and 70 m.m. diastolic. Abdominal examination revealed nothing unusual. There was no oedema of the extremities.

Dental films showed no apical pathology. The blood Wassermann was negative, the urine clear, and the blood count, hemoglobin 77 per cent and

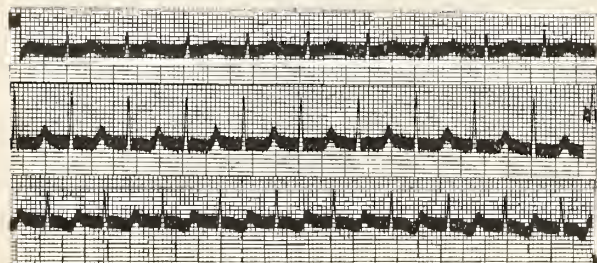


Figure 4

W.B.C. 6,800. An electrocardiogram was made on the date of examination (Fig. 4). This shows sinus tachycardia, PR time .28 seconds (delayed conduction) and T waves diphasic in leads II and III.

The patient was put to bed for 10 days and was asked to force fluids and to take luminal. April 30 she was still weak, but had gained 3 pounds. The heart sounds were normal and no gallop rhythm could be demonstrated even after exercise. An electrocardiogram (Fig. 5) shows

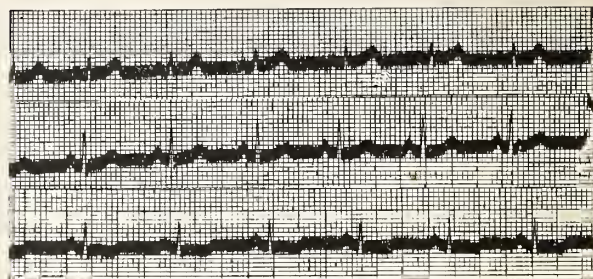


Figure 5

no tachycardia and a PR time of .12 to .13 seconds (normal). She was seen three weeks later when she was feeling perfectly well. The findings were unaltered.

Case No. 3 (J. F. Case No. 105070): This was a male of 21 years, an automobile polisher, seen February 26, 1928. He had always been healthy with the exception of an attack of influenza in 1919. He complained of a cold of three or four weeks duration, characterized by general malaise, fever, cough, yellowish sputum and sharp pain in the left anterior part of the chest. By the time he came to us the fever, anorexia and cough had gone. He still had some pain, but the real reason for consulting a physician was that he felt too weak to return to work. On questioning he stated that he noticed slight dyspnoea and palpitation.

Examination: Temperature 98 degrees, weight 146 pounds. The nutrition was good. There was no dyspnoea or cyanosis. The pupils were equal and reacted to light. The teeth were in good condition and the tonsils small. The paranasal

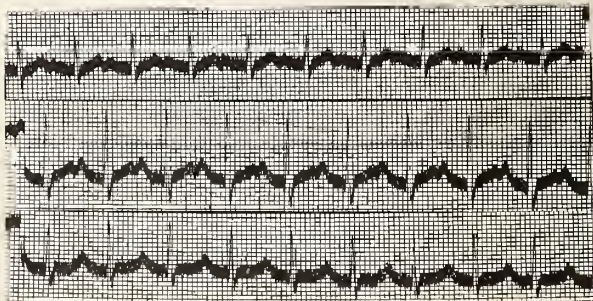


Figure 6

sinuses were clear. The thyroid was not enlarged. The lungs were clear. The cardiac apex impulse was diffuse, maximum 9 c.m. to the left in the fifth interspace. The relative cardiac dullness was 3 c.m. to the right and 12 c.m. to the left. The cardiac rate was 118. A sinus arrhythmia was noted and a gallop rhythm, heard better with the patient erect and during expiration. The gallop seemed to be presystolic in time. There was a systolic murmur present, of greatest intensity

at the pulmonic area. The radial pulse was dynamic in character, the vessel walls soft and the blood pressure 120 m.m. systolic and 70 m.m. diastolic. There was no evidence of congestive cardiac failure.

Six foot chest plates showed the cardiac measurements to be normal. An electrocardiogram (Fig. 6) taken on the day of examination shows sinus tachycardia and prolonged PR time .22 seconds (delayed conduction). The basal metabolic rate was plus 5 per cent. The blood Wassermann was 4 plus to Kolmer technic and with the Kahn test. The urine was clear. The W.B.C. was 10,400 with 61 per cent polymorphonuclear leucocytes.

It was felt that the myocardial damage evidenced by the gallop rhythm and the partial block was the result of either the acute upper respiratory infection or syphilis. The patient was advised to rest and was given careful doses of arsenic and mercury. March 10 the patient was re-examined, when the gallop rhythm was very definite and continuous. The PR time was .20 seconds (maximum of normal). March 24 and April 7 the findings remained unchanged except that the Wassermann had become negative. By April 21 the patient was feeling entirely well. The gallop rhythm could no longer be heard, even after exercise. The electrocardiogram (Fig. 7)

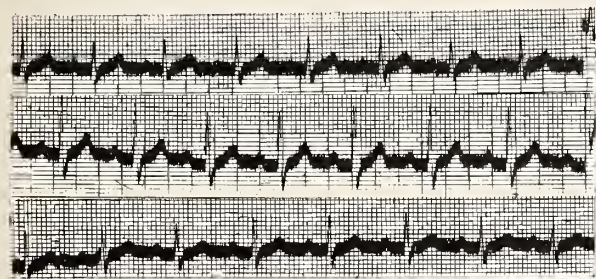


Figure 7

is entirely normal. It was felt that in view of the rapid improvement the myocardial damage was not the result of syphilis.

Case No. 4. (C. C. Case No. 39899): This was a man of 41 years. His former history was that of entire health with the exception of mastoiditis with a mastoidectomy at this hospital in 1924. The clinical examination was essentially normal and the blood Wassermann negative at that time. He stated, when seen by us May 8, 1928, that he had had a sore throat associated with mild joint pains and fever two weeks earlier. Since this infection he had suffered momentary sinking spells, the latest two days before we saw him. He had been seen at the Ann Arbor University hospital at the time of the acute illness, when it was noted clinically that every fourth beat was

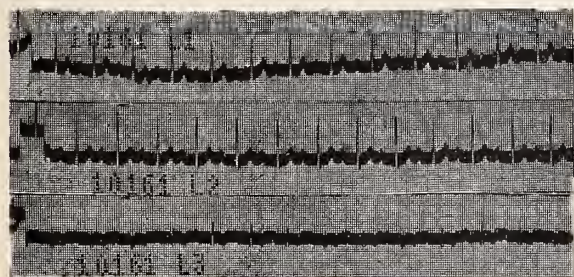


Figure 8

dropped. An electrocardiogram was taken there (Fig. 8), which we publish with their kind permission. This shows a prolongation of the PR time to .28 seconds (delayed conduction). The patient was advised to rest.

Examination, May 8: Temperature normal, weight 181 pounds. The nose and throat findings were normal. There were no devitalized teeth. There was no cyanosis and no dyspnoea. The lungs were clear. The relative cardiac dullness was 3 c.m. to the right and 11.5 c.m. to the left. The cardiac rhythm was regular, the rate 82. The sounds were normal and no murmurs were heard. The radial pulse was regular, the artery walls soft and the blood pressure 110 m.m. systolic and 70 m.m. diastolic. Abdominal examination was negative. There was no oedema. The electrocardiogram (Fig. 9) is entirely normal.

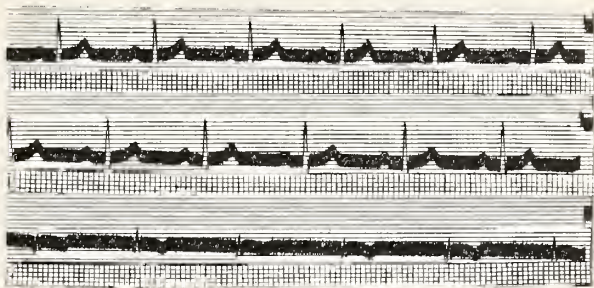


Figure 9

These four, then, are cases of acute upper respiratory infection, probably streptococic, of too short a duration to be attacks of acute rheumatic fever. They occurred during a more or less general epidemic of influenza-like infection associated with marked prostration and they partook of this general character. We had no chance of finding leucopenia, as all were seen after their acute illness. All four came to us because they did not regain strength after an ordinary infection. The rapid clearing of the findings strongly suggests that the damage to the heart was toxic rather than structural. Atropine was not used to determine vagal influence. The toxic effect is particularly noticeable, as one would expect, in the conduction system, though the symptoms of weakness and dyspnoea and the presence of a gallop rhythm in two cases suggest general myocardial damage. This evidence of the effect of infections on normal hearts makes it easy to understand why so many patients with lessened cardiac reserve date their downfall from an acute infection. The other point worthy of stress is that ordinary upper respiratory infections demand due deference, even though they occur in formerly healthy people. This is particularly true if they are accompanied by unusual prostration and prolonged convalescence. Unusual tachycardia, gallop rhythm and dropped beats must be looked

for in such cases and if found, the proper cardiac protection given. An electrocardiogram, if obtainable, may be of much assistance. It is probable that these cases would have gone on to full recovery without the additional protection advised, but the principle of giving physiologic rest to any organ during acute damage, is a good one.

In the literature we have been able to find numerous reports of varying degrees of heart block associated with rheumatic fever, especially while under digitalis therapy (1), (2) and (6). Cohn and Swift (2) in an article on the electrocardiographic changes in rheumatic fever, say, "In other infectious diseases" (other than rheumatic fever) "such as lobar pneumonia, it is already known that changes in the curve do not take place; certainly not with the frequency with which they have been found in rheumatic fever." Although we realize that many observers must have seen such cases as we have described, we have been able to find only four such reports. One of these was in a child of two years with rheumatic heart disease who had a high grade of partial heart block during an acute upper respiratory infection, (4). A second was a case of rheumatic heart disease in which there was prolongation of the PR time during an acute tonsillitis. A third was a case of pneumonia in which the patient, 78 years of age, developed complete auriculoventricular dissociation and recovered with normal sinus rhythm (7). The fourth was in a case of amoebic dysentery in which, during the acute stage of the disease, a complete heart block was demonstrated by venous tracings. After treatment with emetine the patient recovered with a normal sinus rhythm (8).

SUMMARY

In four patients with previously normal hearts we have seen partial heart block and other evidence of toxic myocarditis associated with acute upper respiratory infections, apparently not attacks of acute rheumatic fever.

The cardiac involvement was in every case temporary.

In all four cases prostration was a symptom more marked than would ordinarily be expected.

The need of watching patients with upper respiratory infections for the development of signs of cardiac damage was pointed out.

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DISCUSSION

Dr. G. H. Wood (Detroit): I just want to emphasize one point in connection with these two papers which are very practical. In these days when so many types of therapeutic apparatus are being offered to the physicians, especially general practitioners, it would be well to keep in mind that while these things may help the practice of medicine from the standpoint of pleasing the patients and getting money, the thing which really benefits the patients most would be for the physicians to pay especial attention to diagnostic equipment; or, if that is too expensive for them, they should familiarize themselves with the various important diagnostic processes and obtain that aid from specialists.

Dr. Douglas Donald (Detroit): I think we are far too apt to treat our upper respiratory infections rather carelessly, especially during the convalescent period. Their course of illness is apt to be only three or four days perhaps at the utmost, and we rather carelessly dismiss them after one or two days' convalescence. We should learn that the convalescent period is as important from the therapeutic point of view as is the acute period of infection.

Chairman Jennings: Is there any further discussion?

I feel myself that both of these papers are of great importance. I have been particularly interested in the changes of the electro-cardiogram occurring in the early stages of arterial degeneration.

We have found a fair number of patients having hearts that were rather normal to examination, not seriously elevated blood pressure, and had these patients suddenly go into a coronary thrombosis. In these patients we have found evidence of myocardial damage in the electro-cardiogram.

It is certainly important to be able to detect these very early changes when we cannot detect them either by x-ray or by physical examination unless we accept as serious the most apparently insignificant physical signs.

Dr. Colvin's paper gives us an additional viewpoint on these early changes in the infectious diseases which, I think, is of fully equal importance.

Dr. Chester, will you close?

Dr. John L. Chester (Detroit): I think it is important to keep in mind the classification of heart diseases etiologically, pathologically and functionally, and the changes of the mechanism of the heart beat.

In the etiologic classification, we notice rheumatic heart disease, thyroid heart disease, heart disease due to hypertension, heart disease due to arteriosclerosis, heart disease due to endocarditis, tuberculosis of the pericardium, and acute myocardial changes occurring in rheumatism, scarlet fever, influenza and other infections, and very often those changes can't be detected except by instrumental means.

I think Dr. Colvin's paper was very important because it illustrates very well changes brought about in acute upper respiratory phases. As Dr. Donald has said, those patients should not be dismissed lightly, and if there is any question, they should have electro-cardiographic tracings made.

The point I wanted to bring out was the im-

portance of electro-cardiograms, and the paper will be published in full. It is rather a lengthy paper and would take me over an hour to read it if I had the time. I have been struck over and over again with the many changes that we have found in patients past middle age who apparently had normal hearts, at least on physical examination.

Dr. Leslie T. Colvin (Detroit): I just want to say in contradistinction to the point of Dr. Chester's that two of these four patients had in the clinical examination evidence of myocardial damage of some kind. We could not tell they had heart-block, but from the gallop we knew they had myocardial damage. We knew that anyone who has been doing heart work must have seen these same things we have been talking about.

THE TREATMENT OF LOBAR PNEUMONIA

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The first principle in the treatment of lobar pneumonia is to realize that it is an acute self-limited disease, for which there is no specific cure. The death rate of pneumonia has remained rather constantly between 10 and 20 per cent despite an increasing knowledge concerning the etiology, the use of X-ray in following its course, and studies upon the advantages of various chemical and specific curative agents.

Pneumonia varies in its severity from year to year and in different localities during the same year, and with this variation we see differences in the mode of onset, in the type of causative organism, and in frequency of complications. In the history of cases we find the onset about equally divided between that following an upper respiratory infection, and that of a sudden chill, pain in the chest, cough and fever. The physical signs are always those of consolidation usually in one of the bases, with dullness and clear tubular breathing, often heard best by direct auscultation; this with the presence of rusty or blood tinged sputum assures the diagnosis. Many variations of this picture may be seen, but the general plan of treatment remains the same.

Since the disease is self-limited, the object of treatment must be to maintain life until the process runs its course.

The specific measures are of two kinds: (1) those designed to combat toxemia, which is the outstanding manifestation of the process, and (2) those which are expected to act directly on the invading organism or its products. Of these, the first is by far the most important.

The toxemia of pneumonia manifests itself by fever, cyanosis, a depression of cir-

culatory and respiration efficiency, abdominal distension and sometimes delirium.

Our first effort in treatment must be directed toward support of the heart and this is best done by the administration of digitalis. Especially in patients of middle age and beyond, digitalis is definitely indicated in lobar pneumonia. The drug may be given by mouth as the tincture, and the total dose estimated at 2 minims* per pound of body weight. Digitalis should be given in such a way that at the time of the crisis (about the fifth or sixth day) the heart is fully prepared to meet this emergency. If the patient is seen on the second day, for example, one drachm may be given each day until the calculated dose is administered; or the method popularized by Eggleston may be used, that is, giving half the calculated dose at once and then half the remaining amounts each day. Usually 3 or 4 drams are sufficient, and then the dosage may be cut to 15 minims twice daily, in order to keep the heart under the influence of the drug.

Equally important with medication in protecting the circulation is the matter of complete rest for the patient. In severe cases the patient should not be permitted

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* The amount should be measured, not as "drops" of which there are about 30 in one cubic centimeter, but as minims of which there are 15 in one c.c.

to help himself in any way. The services of a well trained nurse should be secured because in the encouragement to sleep, and in the general comfort of the patient, efficient nursing care is of inestimable value. Sedatives such as luminal should be used for restlessness in every case. The use of morphine will be discussed later.

The toxemia must be combatted by means of an adequate intake of water—and we should insist on the administration of 4,000 c.c.s daily to the average adult patient. Part of this fluid intake may be in the form of food such as milk and sweetened fruit juices. Diet is unimportant in a disease of so short a duration except in that large amounts of carbohydrate tend to increase abdominal distension.

Cyanosis is always present in lobar pneumonia, seen most easily in the nail beds, and its degree is usually an indication of the severity of the disease and the extent of the pulmonary involvement. Not uncommonly the insufflation of oxygen is useful for short periods (15 minutes in each hour) for several days. Commercial welding oxygen may be used to advantage in hospitals and for one who sees several cases of pneumonia each season, the purchase of a portable Barach apparatus (1) for its economical administration is justifiable. Oxygen given by means of a nasal catheter or funnel is less efficient and always extravagant. However, in emergencies the nasal catheter may be used with definite success if the nose of the catheter is placed just back of the soft palate and the stream controlled by passing the gas through a bottle of water. The rate of flow should be determined by the immediate results obtained, usually 2 liters per minute is sufficient. The beneficial effects of oxygen consist of (1) diminution of cyanosis, (2) slowing of pulse and respiratory rate, (3) decrease in delirium and restlessness and (4) general symptomatic improvement. The use of oxygen is a definite forward step in the treatment of pneumonia and means of giving it efficiently should be available in every hospital.

In selected cases, cold sponging of the limbs and anterior surface of the body may be of value as a general stimulant. The procedure is certainly indicated when the temperature reaches 104°-105°, but special precautions must be taken not to draw upon the patient's strength. Patients with pneumonia seem to do better in a cool atmosphere, and the outdoor treatment has been used with some success, in any event the air of the room should be quite cool.

One of the most distressing complications of pneumonia is abdominal distension, and upon its successful control depends the outcome of a large percentage of patients. This cannot be too strongly emphasized, and the physician's attention should be directed to it from the onset of the disease. Its control may be met in various ways, but it is preferable to rely on physical rather than medicinal measures. One of the best methods is that of the turpentine stupe combined with a rectal tube. The hot turpentine stupe may be applied for 20 minutes several times daily, it is less weakening to the patient than repeated enemas, although occasional use of the latter may be necessary as an adjunct, and should be a routine measure every other day.

Pituitrin and pilocarpine may be given for distension but with indifferent success, and usually a second or third dose of pituitrin has no value.

The local treatment of cough and pleural pain is important and here again caution is necessary. The chest pain may be controlled with a flax-seed poultice, sometimes a hot water bottle, but occasionally small doses of codein are advisable. The use of a chest binder seems to embarrass respiration and may be quite detrimental. When cough and pain are persistent small doses of morphine (1/8 grain) may be necessary; larger doses are distinctly contraindicated because they tend to promote abdominal distension. Several prominent clinicians (Cole) (Cecil) advocate the administration of morphine to patients with lobar pneumonia, but the effects of this drug should be understood thoroughly before it is used indiscriminately (and it should not be used routinely).

Davis, working in the Rockefeller hospital, recently has studied the effects of morphine in these cases. He was able to adduce definite evidence that morphine reduces the respiratory rate, causing a decrease in the oxygen content of the arterial blood. However, the relief of pain may offset this effect by facilitating deeper breathing and better ventilation of the lungs. Davis found, further, that in the presence of extensive pulmonary involvement with diffuse rales, the use of morphine may result in a dangerous degree of anoxemia.

In the field of specific therapeutic agents there is great promise, but as yet no very definite results. When the type of pneumococcus can be ascertained quickly by the mouse method, type I antiserum should be

used. Various combined antiserums have been used, and are at present on the market. Cecil recently has reported on the use of the type I and type II antipneumococcus serum of Cole, Huntoon's (Mulford) antibody solution, and Felton's concentrated serum. These preparations have reduced the mortality of cases of type I and II pneumonia, but the practical application of specific treatment is handicapped by certain defects in the preparation. All must be given early to be effectual for the specific types. Cecil reports that the Huntoon antibody solution still lacks sufficient concentration, while Felton's antibody extract has the concentration but lacks the entire freedom from horse serum which Huntoon's solution possesses. A thoroughly satisfactory specific antibody treatment has not been achieved, but each succeeding year brings the problem nearer solution, and where typing facilities are available the treatment may be used under well controlled conditions.

Chemotherapy has been tried in large series of cases and this procedure is based upon the fact that quinine dissolves the pneumococcus in extremely dilute solution. This type of therapy may be used with the distinct understanding that it is still of unproven value. Numoquin base, (Optochin Base) is now supplied, and it should be given with milk before and after each dose, in order to neutralize the deleterious effects of the gastric acid on the drug, which in turn produces optic atrophy in a certain number of cases.

In summing up the treatment of lobar pneumonia the physician's orders would be about as follows:

Strict rest in bed in a cool room to include assistance in use of bed pan and in drinking fluids.

Force fluids to 3,000-4,000 c.c.s daily.

Cold sponging for temperature over 104-5°.

Local applications to chest for pain.

Codein gr. 1/4 for cough, if excessive.

Oxygen administration when necessary.

Turpentine stupes for distension with soapsuds enemas every other day.

Digitalis to full therapeutic doses at time of crisis.

Antipneumococcus serum or their derivative in selected cases.

It is realized that many drugs have been and are still employed in the treatment of

pneumonia, but only those should be used whose value has been proven in combating toxemia, in supporting the circulation, and in securing absolute rest for the patient. Alcohol is only necessary for those who are habitually addicted to its use.

Atropin is of little value in controlling pulmonary secretions because the doses necessary may be detrimental to the heart. Ammonium chloride as an expectorant is of value chiefly during convalescence, if at all. Fever mixtures often depress the heart. Strichnine must be given in large doses as a stimulant and even then its beneficial action is often doubtful; caffeine is much more certain in this respect. The routine use of alkaline medication can hardly be said to have specific value because acidosis is not present in every case and definite harm may be done unless its administration is controlled by frequent estimation of the CO₂ combining power of the blood. Routine blood pressure estimations may be dispensed with in most cases, the blood pressure is of little definite prognostic significance, while the pulse rate, temperature, degree of cyanosis, and distension are more particularly to be observed. Several observers have placed considerable reliance on the quality of the second pulmonic heart sound as poor prognostic sign if it becomes indistinct and muffled. Here again it seems that other manifestations of toxemia are of more value in determining the severity of the disease.

When we consider that the pneumonia death rate (about 100,000) generally is now equal to that of tuberculosis, the subject of the effective treatment of lobar pneumonia becomes highly important. Every physician should be thoroughly equipped to meet this situation with confidence in tried measures, and with a knowledge of the fundamental conception of the disease. Our mainstay in treatment at present is in the routine physical and medicinal procedures rather than in specific antiserums and chemical products, although our chief hope for the reduction of mortality lies in the development of satisfactory antiserums.

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HYPOTHYROIDISM WITHOUT MYXOEDEMA; ITS RECOGNITION AND TREATMENT

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Among the groups of patients passing through an office and clinic practice, we have become especially interested in a type approaching in signs, symptoms and laboratory findings, the true myxoedema, but differing from the latter principally in the absolute absence of the characteristic non-pitting oedema that marks that affection. In a series of two thousand cases reviewed, fifty examples of the above have been found, and these form the basis for this paper. Forty-six of the fifty were between the ages of eighteen and fifty, thus eliminating signs and symptoms often found in the extremes of life which might confuse the picture.

The chief presenting symptom in most of this series was a distinctive mental and physical fatigue—a pronounced inertia—marked usually by its morning peak, with an increasing energy curve as the day wore on, until evening found them, as it were, “on the crest.” Associated with this fatigue in a substantial number of cases were one or a number of the following symptoms:—sluggish memory, inability to concentrate, dull headaches, constipation, dyspnoea on mild exertion, moderate indigestion, myalgias or arthralgias, disturbed menstruation, usually on the scant side, and occasionally mild impairments in the special senses, and a loss of libido. Common to the group and usually suggesting the lowered level of heat production were dry skin, susceptibility to falls in temperature, numbness or chilliness of the hands and feet, low buccal temperature, slow pulse rate and low blood pressure. Physically other changes in the integumenta were not uncommon, notably hair loss, an increasing tendency to dental caries, skin manifestations such as eczema and urticaria, and an increasing adiposity with definite predilection for the supraclavicular and upper dorsal areas and the upper arm and legs. From the laboratory side—a secondary anaemia, mild leukopenia, and relative mononucleosis were not unusual, and of course the one finding common to the entire group—namely a definite and repeated basal metabolic rate determination below the proscribed normal limits.

Physical examination in every case failed to revail other pathology which was capable of explaining the presenting findings, and we felt justified in considering these individuals as hypothyroid, and subjecting them to closely scrutinized thyroid therapy.

REGIONAL RESUME OF SIGNS AND SYMPTOMS:— SYSTEMS—Hypothyroidism without myxoedema.

Signs and symptoms.

NERVOUS—Headaches—60%, usual frontal or occipital.

Memory and concentration—Poor in 54%.

Sleep—Too easily induced in daytime, though night insomnia common.

Special senses often mildly impaired.

Sensorium often sluggish.

NECK—Sense of fullness or constriction common.

Thyroid may or may not be palpable.

CARDIORESPIRATORY—Dyspnoea on mild exertion common.

Predominating bradycardia.

GASTROINTESTINAL—Appetite usually impaired.

Vague indigestion—Possibly explained by frequent hyp acidity.

Constipation almost the rule.

GENITOURINARY—Menses regular but scant in 66% of cases.

Lessened libido common.

HAEMATOPOETIC—Commonly secondary anaemia with mild leukopenia and relative mononucleosis.

INTEGUMENTA—Skin dry in 75%; urticaria, furunculosis, and eczema not uncommon; perspiration scant.

Teeth tend to caries.

Hair usually dry, and tends to fall out.

EXTREMITIES—Coldness and numbness of distal extremities frequent.

Arthralgias and myalgias common.

FAT METABOLISM—52% at normal weight for their height, though obesity common with particular predilection for supraclavicular area, upper dorsal, upper arm and leg, and upper border of trapezius muscles.

GENERAL—Hypothermia—Composite 97.7.

Hypotension—Composite 111/70.

Fatigability marked in 90%.

Susceptibility to fall in atmospheric temperature.

DIAGNOSIS

Since a similar train of symptoms may be produced by other means—particularly chronic foci of infection, blood dyscrasias, cardiac disease, drug habituation, and long-continued overwork, underrest, and undernutrition; a thorough clinical and laboratory survey is of paramount importance. Since hypothyroidism—from its frequent nebulous character—should be, like hysteria and the minor neuroses, a diagnosis primarily of exclusion, it is only when other factors have been ruled out, and we are left with a low metabolic reading, (performed under basal conditions and in the hands of a trained, intelligent operator), that this should be taken as explanatory, and entered as our clinical impression.

False low readings are rare with the Roth modification of the Benedict apparatus—the machine most commonly in

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use—for all errors of faulty preparation, and technique make for mistakes on the plus side.

Other disturbances in the endocrine system, such as hypopituitarism, hypogonadism, Addison's disease, etc., will occasionally present confusing pictures. But a careful analysis of body measurements, distribution of fat deposits, symptoms and metabolic rate will usually suffice to differentiate them, though sometimes therapeutic trial must be made to determine the importance of these factors, in a possible pluriglandular syndrome.

TREATMENT

Once the diagnosis is determined, treatment becomes a relatively simple matter, if a few points be born in mind; and if persisted in, its results furnish a very happy chapter in clinical therapeutics.

In the last ten years, thanks to an immense amount of pharmacological investigation, a definite standard of potency for thyroid gland substance has been laid out, namely, that to conform to pharmacopoeal standard, it shall contain 0.17 to 0.23% of iodine in thyroid combination. However, even with this distinct advance, variations in clinical effect still exist. It is well, therefore, to choose some one preparation of proven pharmacologic activity and to use this for clinical trial. If its results on known cases are satisfactory, this preparation should be continuously used on all individuals of this type. Only in this way may definite conclusions be drawn from any results obtained.

The dried gland—official in this country—is 4-5 times the strength of the fresh gland, official in England (which, however, is stocked as prepared by Burroughs, Wellcome & Co. in many of our local drug stores.) Either may be very satisfactory, providing the relation between them be born in mind. Thyroxin—a pure crystalline substance isolated by Kendall in 1914 from the thyroid glands of sheep and hogs, is the third preparation in rather common use, particularly at the Mayo Clinic. Its chief advantage lies in the increased accuracy of dosage possible, and in the fact that it may be given hypodermatically, making administration possible when there is failure of absorption of thyroid substance given by mouth. Its disadvantage is its added cost over the gland substance proper which is in most cases perfectly satisfactory. With one exception, we have used the dessicated gland throughout our observations.

While the initial dosage may be gauged

roughly by the degree of depression of the metabolic level, it is well to begin cautiously with a dosage of $\frac{1}{2}$ to $1\frac{1}{2}$ grains daily, given preferably on an empty stomach to aid absorption, and when possible twice a day, (as with the morning and evening tooth brush, to lessen the number of forgotten or missed doses.) Toxic effects are not uncommon, and sometimes unavoidable, coming in the main during the period of most precipitate rise in metabolism, and consisting most commonly of headaches, muscle or joint pains, palpitation, dizziness, diarrhea and occasionally nausea and vomiting. By avoiding an over-enthusiastic early dosage, these ill-effects may be minimized or missed entirely. Even when present, however, they are of brief duration and cause no real harm, if the gland be stopped at once, and taken up in reduced amounts after the subsidence of symptoms.

More often than not, the initial dose will be inadequate, as a check-up metabolic reading in seven to ten days will reveal, and increasing amounts may be added with repeated tests at one to two-week intervals, until a normal level be reached and maintained, at which point this determined amount is made a routine and the interval between metabolic checks stretched out to once monthly, later once or twice yearly. For it has become a food and not a medication, and must, in all but a few children and very young adults, be continued indefinitely, possibly always. We have seen so many in this past few years who have been set upon their feet by adequate thyroid intake, only to lag, and report back again after months off of the gland in as bad condition as ever, and so few in whom a change in dosage—either up or down—was necessary after the initial requirement was settled, that we feel the need of emphasis on this point. In our series a composite curve showed an average low reading of minus 22%, an average final level of minus 1%, on an average daily dosage of 3.2 grains.

RESULTS

To attempt to calibrate results which are so predominately of a subjective character, is manifestly exceedingly difficult, and lays one wide open to the charge that a gross psychic element may have entered into their production. Nevertheless, by far the larger number of the individuals under discussion, had previously been subjected to psychotherapy of one sort or another, intentional or unintentional, and

surfeited with medications far more malodorous and suggestibly distasteful, before starting on our unassuming brown tablets. Yet the increased mental and physical vigor, the returning warmth to the extremities, the cessation in indigestion, muscle and joint pains, and headaches, and the resumption of normal, otherwise unaided, bowel movements, had never been attained before. Objectively, we may point to the rise in blood pressure, pulse rate and temperature, the decreasing dryness of the skin and the weight loss and redistribution, which previous strenuous dietary restriction had failed to bring about. An observant dental confrere has sent in a number of people in whom an unusual and progressive dental caries was taking place, without obvious oral cause. A substantial proportion of these presented signs and symptoms of a hypothyroid state, and the condition was markedly improved coincident to the institution of thyroid therapy. One, a young lady in the early thirties, had had fourteen definite areas of caries develop in 1926, even though under bi-monthly observation. With the eliciting of hypothyroid traits and a metabolic rate 21% below normal, she was placed on adequate doses of tryroïd, and in the succeeding twelve months, on an otherwise identical routine, showed but two small carious foci. Several seeming paradoxes have arisen. For example, one individual in the late menopausal zone, presented a moderate hypertension, with signs of thyroid lack. On thyroid therapy, the pressure fell within normal limits, and remained there so long as thyroid therapy was continued, to rise again when it was stopped. A considerable number of a definitely undernourished group were first able to consistently gain weight after they were on thyroid. A young lady reported recently, had run an absolutely unaccountable temperature rise, which fell to normal on thyroid, and rose again at its discontinuance. These are exceptional results contrary to those usually expected. In the main then thyroid therapy in carefully selected cases, will, if given in adequate dosage, and over sufficient length of time, bring about pleasantly conclusive results, sufficient to warrant a continued lookout for members of this group, and the institution of the indicated therapy in them.

DISCUSSION

We have presented a symptom complex, which we have called hypothyroidism without myxoedema. Though this syn-

drome has acquired a somewhat belated recognition in medical journals of the past year or two, it still seems to warrant more general attention than it has attracted hitherto. Kocher undoubtedly had some such group in mind forty years ago when he spoke of thyropeia and other continental writers when they referred to the "forme fruste" of myxoedema. But each name indicated an abortive or early stage of myxoedema, whereas many of its manifestations are distinctly different and yet with basal metabolic levels equally depressed. The appended table will show some of the conflicting points.

Comparison of signs and symptoms of:

MYXOEDEMA (KOCHER)	HYPOTHYROIDISM WITHOUT MYXOEDEMA
1—Absence or atrophy of thyroid.	Sometimes non-palpable, but frequently diffusely increased in size.
2—Slow, small, regular pulse.	Good quality; usually slow, but may be normal or rapid.
3—Vasomotor system negative.	Usually unaffected.
4—Apathetic and expressionless.	Usually normal in appearance.
5—Narrow lid-slits.	Normal.
6—Slowed metabolism.	Same.
7—Thick, non-transparent, dry, wrinkled, and desquamated skin.	Frequently dry; otherwise negative.
8—Slow digestion and excretion; anorexia.	May be similar.
9—Short, thick, fingers, often broad at the ends.	Usually normal.
10—Drowsiness and sound sleep.	Often drowsy by day and poor sleep at night.
11—Dulled sensation, apprehension and action.	Mild changes of same nature.
12—Poverty of thought; apathy; lack of feeling.	Mild mental sluggishness; memory poor.
13—Clumsiness.	Not notable.
14—Stiffness of extremities.	Occasional arthralgias or myalgias.
15—Retarded bony growth; bones short, thickened or deformed.	No notable change.
16—Constant feeling of cold.	Common to many.
17—Slow, deep breathing.	Not notable.
18—Obesity.	About 50% overweight, and the remainder at or below normal.
19—Senile appearance even in the young.	Rare.
20—Typical non-pitting edema present, disappearing as metabolic raised by thyroid administration to 17-18% below normal at which point it disappears. (Plummer and Boothby).	Edema never present, even when metabolic rate 25-35% below normal.
21—Rare in this country, only 10 cases being seen by Osler in his 16 years in the Johns Hopkins clinic.	Common: 78 cases in two years, ordinary run of office patients.
22—From 2-10 pages devoted to it in standard modern text-books and systems.	Either not mentioned or granted a scant few lines at most.

It would seem, therefore, that we are dealing with a clinical entity, differing not so much quantitatively as qualitatively, and suggesting that some different process has gone on in the thyroid, gland of the hypothyroid without myxoedema, than that of the myxoedema itself. The nature of this change and its etiology is unde-

terminated. Chronic infection, particularly of the upper air passages, probably plays a part. It seems to us not impossible that the almost routine use of iodine in our table salt, may furnish a possible source for the change and account for the apparent marked increased incidence in late years. We have seen a few individuals with unstable thyroid mechanisms and presenting originally typical changes on the plus side go over under prolonged administration of Lugol's solution, to the minus side, with eventual production of symptoms like those discussed previously in this paper. Why may not a similar circumstance occur with the sodium iodide

added to many salts? We are trying to determine at the present time whether or not this actually does occur. At present it is only a theory and as such we must leave it!

CONCLUSIONS

1. A train of symptoms and signs have been described, combining to form what we believe to be a definite clinical entity, the frequent occurrence and splendid therapeutic results of which tend to warrant discussion.

2. Its treatment has been traced, pitfalls noted, and results analyzed.

3. Iodides in our table salt has been mentioned as a possible etiological factor.

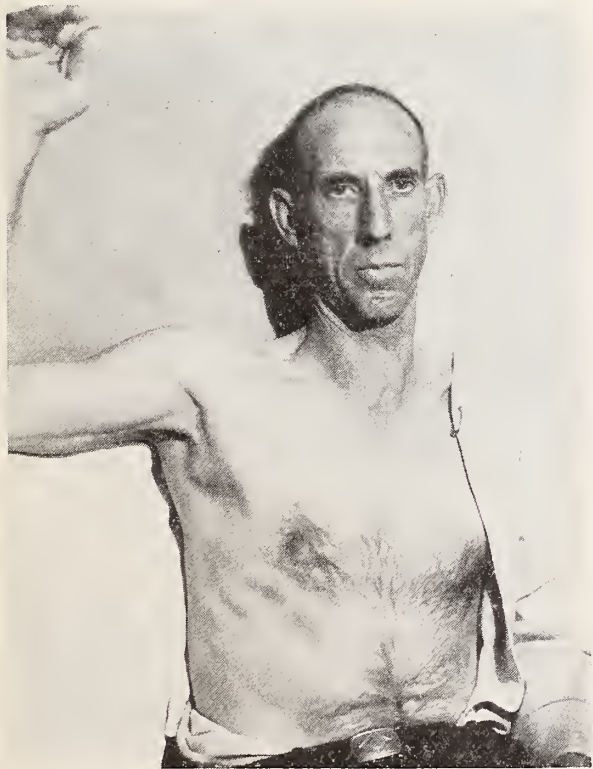
TULAREMIA—CASE HISTORY

ARTHUR M. SHAEFFER, M. D., F. A. C. P.*

(Jackson Clinic)

JACKSON, MICHIGAN

D. E. P., age 40, dressed rabbits at the West Market in Detroit, November 15, 1928. He cut the tip of the right thumb. Three days later he had a very severe headache, chills, fever of 102.



greatly. The veins were hard, and a red streak was noted from the hand to the axilla. An ulcer developed at the site of injury to the thumb. The patient was quite ill, and blood was taken for an examination. The serum was found by the U. S. Public Health Service at Washington, D. C., to give a positive agglutination for bacterium



The cut was red, swollen, and the arm was tender, with a red streak running to the axilla, a painful mass was noted in the axilla. When seen the epitrochlear and axillary glands were swollen

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tularensis in dilution of 1-640. The Michigan Department of Health reported a positive agglutination of his serum, in dilution 1-640 in 30 minutes at 56 degrees. A blood count was done. The R. B. C.—5,168,000 W. B. C.—13,250. Blood smear, red blood cells normal in size and shape, count 62% polys.—19% lymph.—1.9% endothelial. count 62% polys.—19% lymph.—1.9% endothelial.

The patient was confined to bed for about two weeks. A wet dressing of alcohol, boric acid and phenol—or “Ochsner’s Dressing” was kept on the granuloma. No surgical intervention was instituted because we felt from the first that we were dealing with a ulceroglandular type of tularemia, and the observations of other men (Francis, Simpson, et al.) indicate that surgical interference with the primary lesion is contra indicated.

Our patient has been “temperature free” since December 12th, and the ulcer is slowly healing. He has lost about 10 pounds in weight since his infection.

Sporotrichosis, like nodular lymphangitis over the forearm, developed and the axillary mass enlarged to the size of a small orange. Fluctuation was noted—a large needle was carefully inserted and 45 c.c. of pus was aspirated with a luer syringe December 28, 1928. No organisms were found on direct smear, but a guinea pig was inoculated and it died in four days of tularensis infection. The axillary lesion has caused no more trouble although the glands are enlarged and hard. At the present time, January 12, 1929, the patient is still very weak, although the primary lesion is practically healed.

INJURIES TO CHEST

L. R. Sante, St. Louis (Journal A. M. A., Nov. 24, 1928), considers the pathologic conditions produced by trauma to the chest and indicates the role played by radiology in their detection. Fractures of the ribs rarely cause serious injury to the lung. If fractures are multiple and there is wide separation of the fragments, injury to the lung and hemothorax may occur. Subcutaneous emphysema usually does not present a serious complication in injuries to the chest. Occasionally, however, air may be forced under the fascia planes and may envelop the entire body, causing death. Traumatic pleurisy exists as a definite clinical entity and does not show any different radiographic appearance than ordinary thickening of the pleura. Hemorrhage into the lung following injury by stab wound or gunshot wound is one of the most frequent results of injury to the chest. Radiographically it appears as a small blotchy area of consolidation in the lung. Hemothorax associated with injury to the lung is one of the most serious and most frequent complications of injury to the chest. Radiographically, hemothorax may present some points of difference from ordinary effusion in the chest. The blood seems to form a thin layer over the entire lung and does not gravitate to the base of the chest. It does not cause the same amount of obscuring of the lung structure throughout the chest and shows uniform involvement of the apexes—a condition not seen in ordinary effu-

sions. Mediastinal displacement rarely occurs and when it is present is a grave omen. A gunshot wound or stab wound of the chest may cause injury to the lung without leaving roentgenographic evidence of any abnormality for several hours after trauma. Subsequent hemorrhage into the lung substance may become evident several hours later, however, and bleeding into the pleural cavity may continue for days until the entire chest is filled with blood. For this reason it is well to make repeated examinations during the first week after injury to the lung to detect any subsequent hemorrhage. Blood ordinarily does not show the normal tendency to clot in the chest cavity, consequently small bleeding points may continue to bleed for a long time, resulting in extensive loss of blood. Unchanged blood can be absorbed by the pleura, but when chemical changes have occurred it is doubtful whether any great amount of absorption ever occurs. Chocolate colored fluid has been aspirated from the chest three months after injury. If it is allowed to remain there is danger of infection and empyema. Traumatic pneumonia is much more rare than traumatic pleurisy and usually takes on the form of lobar pneumonia. Traumatic pneumothorax is a relatively infrequent complication of other types of injury to the lung. It occurs more frequently with stab wounds than with gunshot wounds. It may occur spontaneously from apparently trivial injury.

SWEDISH SURGERY OF 5,000 YEARS AGO STUDIED

Trepanation of skulls and other major operations were performed in Sweden 5,000 years ago, it has been brought out by excavations made on the Swedish island of Gothland in the Baltic Sea, by Dr. Gustaf Nihlen, archaeologist of Stockholm. On the site of the present city of Visby, “the city of ruins and roses”, he found remains of an ancient fishing village dating from the stone age. Examining a number of human skeletons, Dr. Nihlen discovered that experienced surgeons must have existed at that period. Neat, round holes were discovered in several skulls, showing that the art of trepanning as a Cure against various kinds of ills was known. In performing these delicate incisions, the surgeons used an ordinary stone auger or drill, and it appears that in most cases the patient survived the operation. Dr.

Nihlen’s examinations also disclosed numerous abnormal conditions, excrescences and deformities, showing that this prehistoric race must have been afflicted with rheumatism of the joints and similar diseases. These were probably brought on to a great extent by the hard climate and partly perhaps due to the exclusive meat diet, which also has been found to cause deformations of the jaws. It appears too, that the Swedes in those days must have suffered very much from decayed teeth and toothache. Another disease which evidently haunted ancient Visby and its inhabitants was rickets, and frequent epidemics seem to have ravaged the population. The death rate among children must have been very great.—Science Service.

Annual Conference of Secretaries of Component County Medical Societies, Michigan State Medical Society

January 16 and 17, 1929, Palmer House and A. M. A. Building
Chicago, Illinois

WEDNESDAY EVENING SESSION

January 16, 1929

The opening meeting of the Mid-Winter Session of the Council of the Michigan State Medical Society, and Joint Dinner and Conference of the County Secretaries, was called to order in the Palmer House, Chicago, January 16, 1929, at seven o'clock, Dr. F. C. Warnshuis presiding.

Chairman Warnshuis: Gentlemen, representing the Council of the State Society, I consider it a distinct pleasure and a privilege to welcome the members of the Secretaries Association of our Michigan State Medical Society as well as the members of the council to this annual conference of County Secretaries which we are holding this year in Chicago at the headquarters of the American Medical Association.

It is customary, as a rule, that each dinner or gathering or occasion like this should be graced with an invocation. We weren't able to secure any pastor who would accept the guarantee of the Secretary of the Michigan State Society as to the morality of the profession in Michigan to come here this evening and utter an invocation. So in place of the invocation I am going to call upon that universal individual, Morris Fishbein, the editor of the Journal of the American Medical Association to issue the invocation for this meeting tonight. Dr. Fishbein. (Applause).

Dr. Morris Fishbein: Secretaries of the Michigan County Medical Societies: I suppose I ought to begin at once by telling about a time when I was out in Oklahoma and a very important individual, namely, a secretary, was just giving up his work. He had made a very beautiful address and when he had finished one of the members stood up and said, "Mr. President, this inspiring address by our retiring secretary marks a landmark in the history of this society, and I move you, sir, that it be spread upon the minutes of the organization."

Another fellow got up and said, "I want to second that motion, and I move you, sir, that it be spread upon the lawn." (Laughter).

I am quite sure that you don't need any invocation from me or from anyone else at this time, because you seem to be the most peaceful and quiet organization that has yet graced the city of Chicago where treatment is rough and ready and can be found in almost any corner and down any alley. That will be a warning to you to stay in the hotel and play bridge quietly, or something of that sort, after the close of the meeting.

I was just talking to our eminent President-Elect a few minutes relative to the habits and various customs practiced in Scotland. I heard of a Scotch farmer who, when asked why he had gone into the country to live, said, "I am expecting an addition to my family and I wanted to take advantage of the rural free delivery." (Laughter) That also has nothing whatever to do with the case.

I have just one more incident to relate that has some connection with this matter. An interesting event of that type was about to take place in one of our local hospitals and the expectant father was wandering up and down the corridors giving himself a big time, and wondering what he should do with himself. He kept on asking the doctors questions, and finally the doctor said to him, "Don't you worry, we have never lost a father."

Then the doctor went back into the room and in a few moments the nurse came out and said, "I want to congratulate you, sir, your wife has presented you with triplets." That was the time they lost the first father. (Laughter)

This is merely introductory to some very heavy diet that I understand is to be our portion very shortly.

I have just returned from some speaking around, and, as you can see, I am quite unaccustomed to public speaking. I am going to apologize for a somewhat

early departure. A certain long-winded preacher was speaking one day. He had covered a great deal of ground, and finally he came to a certain portion in his address—most of the congregation being asleep—and said, "Now, gentlemen, and members of the congregation, I have covered the major prophets and I have covered the minor prophets and I want to know what I shall do with Hezekiah."

A little fellow got up in the back and said, "Hezekiah can have my seat; I am going home." (Laughter and applause)

Chairman Warnshuis: I think it is quite appropriate at this time that we should call upon the gentleman that holds the highest office in the Society of our Michigan State Medical Society, the gentleman who was elected to that office when he was mid-seas in the big ocean, Dr. Louis J. Hirschman of Detroit, President of the Michigan State Medical Society. (Applause)

President Hirschman: Mr. Secretary, Other Secretaries and the Council: I think I am still somewhat at sea. I haven't quite landed on the job yet although ever since I have returned I have found that offices are sometimes like babies. They say some are born babies, some achieve babies, and some have babies thrust upon them. It is the same way with this office. I had it thrust upon me, and I am just about getting my bearings now.

I wish I were as full of oratory as my friend Fishbein is of delivery. (Laughter) I haven't any choice stories to bring.

I simply want to remind our Chicago friends of the change of affairs and in the growth of the country. A great many years ago we used to read a great deal in the alleged funny columns of the papers about the growth of Chicago, how it had overspread Cook County and enveloped the state of Illinois. I just want to remind the fellow cities that Michigan has now spread out over Chicago, and this now being part of our state we are holding our meeting here. It is a strange fact that the state of Michigan is so peculiarly located geographically that it is much more convenient for those who live in the northern peninsula to come to Chicago than to go to Detroit, so those who live in the northern part of the state regard Chicago as part of their own.

The meeting that has been called I think is one of the most important that has ever been held. The opinion that a great many of the membership of the State Society has held about the American

Medical Association and its relation to the individual county societies, as well as the individual members, has been rather vague, and I think it is going to be a great thing for the state of Michigan and a great thing for the County Societies and the secretaries who come here to meet face to face the personnel of the American Medical Association and be able to investigate at close range its activities. It is a great privilege, and I certainly feel that it is going to inure to the benefit of the Michigan State Society to such an extent that it won't be a great many years before a new crop of secretaries having been elected will hold another meeting here.

Our problems in Michigan, no matter from what part of the state we come, are more or less uniform. There are differences in the individual problems but the problems of the profession are the problems of the profession in other states as well.

I don't know whether in other states they are more fortunate than we are in not having to be constantly on their toes regarding our medical legislation from being disrupted, but to constantly strengthen it. We have this year quite an ambitious program. We have only two bills before the legislature in which we are particularly interested, but it is of vital importance that we this year not only back up these bills through our own membership, but that we enlist the aid of our newly organized Women's Auxiliary to such an extent that they can assist in getting signers to the petition which you have all received lately in order that we may come to the legislature with several hundred thousand names of the citizens of Michigan asking for better laws to protect public health.

The attitude of the legislature has been heretofore, and I presume always will be, that the doctors are always wanting something for their own personal benefit. By getting signatures through the Women's Auxiliary particularly, their friends and co-club members of societies, churches and lodges it will show the legislators that it is the public at large who are asking for this protection from those who are attempting to practice the healing art and are not properly fitted to do so.

The question of securing more members in the County Medical Society is always one of paramount importance. Even in the cities where it is much more convenient and easier to reach men practicing medicine, that problem is always fraught

with difficulties. A great many men, it is strange to say, men who have graduated from medical schools, who have always been the fraternal type and have always lived in harmony with their fellowman until graduation, after they leave their medical schools or their internship seem to lose that spirit of cooperation and neighborliness and want to drift for themselves. You find some men who sort of feel that the medical society has no particular interest or value to them. They have no particular reason for thinking so except that through some strange trick of fate they have located perhaps a little farther away from some of the other men practicing the profession. It is going to be increasingly difficult to reach those men and bring them into the fold:

I think one thing that the County Secretaries Conferences should dwell on quite largely is ways and means of reaching the man who is a good man, who is a good practitioner, and who has been waiting to be asked to join the medical society. For instance, we thought we had our Society pretty well organized in Detroit, but the secretary's figure showed us that even in the last year we were able to increase that membership by practically ten per cent by a little effort. I think in some of the smaller societies the percentage could be markedly increased by a little personal effort.

I have no great message to deliver to you tonight. I am simply glad of the opportunity of greeting you all here in this part of our state, and I want to just simply say that since you have honored me by elevating me to the highest office within your gift I am at your service, and if there is anything that I can do personally or in my official capacity to help bring your individual County Society to a little higher level in any way, shape or manner, all you have to do is to let me know and I will be there to do whatever I can.

Mrs. Hirschman has informed me that I have a temporary divorce lasting one year because she has seen so little of me since I have been on this job. Any hour of the day or night that you feel I can be of service to you, don't hesitate to call on me. (Applause)

Chairman Warnshuis: As you know, the Council of the State Society is constituted of men elected from each congressional district of our state. The Council is the active administrative body of our State Society, and at this time I feel it is quite the proper thing to call upon the Chair-

man of the Council, Dr. R. C. Stone of Battle Creek. (Applause)

Dr. R. C. Stone: Mr. Secretary: It is indeed a great pleasure for me to see so many of our County Secretaries respond to an invitation to attend a meeting of this sort here in Chicago. We, the Council, recognize—have always recognized—that probably the greatest figure in the activities of our State Society are, in reality, our County Society secretaries.

We appreciate very deeply the splendid effort which each and every one of our secretaries of our County Societies have made, and we hope that those efforts will not be lessened any in the future.

As Dr. Hirschman has alluded to the fact, when it came to a question of deciding upon Chicago and the American Medical Association building as a place of meeting for this conference, we were inspired to promote it with the feeling that our county secretaries would go back to their Societies with a new field of vision, a greater field of vision, and with inspired vigor to carry on during this coming year. There are many activities, as you know, that are going on and are being carried on by the Michigan State Medical Society, some twenty-eight or thirty in number.

The function of the Council, as Dr. Warnshuis has said, is to administer as well as we can, and to aid in every way, the performance of those various functions. We can only succeed in doing that by your help. While we have recognized always the splendid help which you have given us, we want you to continue and we want you to feel that if there is anything that any member of the Council individually can do, or the Council as a whole can do, to be of assistance to you in working out your problems, all you have to do is to ask and we will come readily and quickly and happily to your assistance.

The meeting tomorrow, which you are going to attend at the A. M. A. building, is probably one of the best meetings which it is possible for any gathering of county secretaries to attend. I think possibly, as Dr. Hirschman has alluded to the fact, that when we have a new crop of secretaries another meeting of this sort will be held here. I don't know but that it would be a good plan to have the meeting here every year because I feel if you men get the inspiration in seeing what is being done and is going on in the A. M. A. building, such as we men of the Council have had today, you will go back well repaid for having made this trip to Chi-

cago. We are very happy to have so many of you here. (Applause)

Chairman Warnshuis: Because of no particular merit that I may possess, it has been my privilege, however, for some seven years to preside at the meeting of the House of Delegates of the American Medical Association. It has always been a very impressive moment to me when, at the Thursday afternoon session of that House of Delegates, where in the order of business we arrive at the election of a President-Elect of the American Medical Association. I have been extremely impressed that each year there has come forth some outstanding man who has been honored with that office.

This last year at Minneapolis, particularly, the members of the House of Delegates saw fit to elect to the high office, the President-Elect of the American Medical Association, a man who for a score or more years has been deeply and vitally and personally concerned with the activities of the profession of this country. He served in various capacities, on the Board of Trustees of the American Medical Association, and for many years as Chairman of the Judicial Council, and eventually he was elevated to the office of President-Elect of the American Medical Association.

As I had the privilege of presenting him to the House of Delegates as their choice for that office at the Minneapolis meeting, I consider it now an extreme personal pleasure to present to you President-Elect M. L. Harris of the American Medical Association.

. . . The audience arose and applauded . . .

President-Elect Harris (American Medical Association): Mr. Chairman: As the President-Elect of the American Medical Association I wish to extend to you, on behalf of the Association, greetings that you are holding your meeting in Chicago today. It is one of the most important meetings, as I see it, that can be held by a State Association.

As President-Elect I find there are several duties and obligations imposed upon me, not the least pleasurable of which is that of visiting various sections of the country and attending meetings of the State Societies and local societies and meeting those who are actively engaged in not only the practice but of developing medicine and serving the people.

As I looked here to my left and saw Dr. Fishbein sitting here he told me that he was attending this meeting only for

the purpose of getting a meal. As I am not allowed to do much practice during my incumbency in office, I find one of the greatest benefits that accrues to me in going about the country is that I get a good meal every once in a while. (Laughter)

When Morris Fishbein came here—I don't know, but I think it is something like another guest who was found at a big party. Three men who had been entertained quite frequently while in England said to each other, "We have been entertained quite lavishly while we have been here. I think it is up to us to give a party before we go." They all agreed. There was an Irishman, an Englishman and a Scotchman.

The Irishman said, "I think it would be very nice if each of us bring something to the party to add to the festivities of the occasion." The other two agreed to that. When they arrived at the party the Irishman brought three nice bottles of good old Irish whisky. The Englishman brought three glasses, and the Scotchman brought his brother. (Laughter) I don't know who brought Morris Fishbein.

If we review briefly in retrospect the history of civilization we find that progress has been at an accelerating pace. By that I mean if we take any definite period of time, for instance fifty years, we find that the progress in general knowledge or civilization, which are practically synonymous, has been at a greater pace during those fifty years than has occurred in many times the same length of time previously. We find that this applies likewise to medicine. During the past fifty years medicine has made greater progress than in centuries before.

If we review the history of medical societies we find that the early medical societies were organized for the sole purpose of developing medical knowledge and science in the practice of medicine, such as brought about by the concourse of physicians from different parts of the country, the exchange of ideas, and so forth. In that way medicine has developed, and developed rapidly.

We find that the secretary of the early medical society was purely a clerk, his duties were entirely clerical. He was to carry on what little correspondence there was, if there was any, and keep the records.

But medicine, in devoting its whole time to the profession, the development of the science in the practice of medicine, neglected a most important duty. They have failed to develop along sociologic and

economic lines and that, to me, is the greatest problem which the profession has to solve today.

The medical profession has come into a great deal of criticism by lay people during the past two or three years. Articles have appeared in lay magazines of wide circulation that have criticized the medical profession. These criticisms have been directed along principally two lines: (1) The high cost of medical care including not only physician's charges but hospital charges; (2) along the line of failure to provide for the distribution of medical services to all the people.

The high cost of medical service is not due entirely to the medical men. If we analyze why medical fees are higher today perhaps than they were in the past, we will find, first, that medical fees have not increased in amount anywhere near to the extent that other commodities have. If we analyze further we will find that one of the chief reasons why medical fees have increased to the patient is due to the people themselves and not to the profession.

The people have come to believe that there must be a specialist for every ill that flesh is heir to. Why they have come to that point requires considerable analysis, but they have arrived at that point. It is due, to some extent, by medical schools of today teaching medical students that the practice of medicine is too extensive a subject for any one mind to master, therefore inducing medical students to take up a specialty long before they graduate. People have come to believe, and as a result of experience, that the specialist must be paid a much larger fee than a general practitioner, although the service received may be no better than they would have received at the hand of their family doctor.

That being the case, they go to the doctor to see if he is a specialist on the particular ill which they imagine they have. If he is not, then they wish to be recommended to someone who is. Naturally, those who have more bent to commercialism than to the honor and ethics of the profession claim to be specialists in the particular disease for which they are consulted. This demand of the people has given rise to an increased number of pseudo-specialists. The patient finding someone who claims to be a specialist for the particular illness will pay that specialist five or six times as much as he would if he had received the same or perhaps a better service at the hands of his

family doctor. So the high cost of medical care is not alone due to the physician.

Another reason why medical care is said to be so high is that physicians do not regulate the amount which a patient pays for hospital care. You know that the tendency today is for people to live way beyond their means. You know the old saying that the luxuries of our fathers are the necessities of the present generation. People believe that a luxury today is a necessity, and they fail to make provision for sickness or for a rainy day, and when illness comes they have nothing laid aside to meet it. They enter the hospital, and being born and raised and bred in luxury and spending their entire income, feeling that they must have every luxury that the rich enjoy. They must have their radios, their automobiles and everything that goes with it, so when they enter the hospital they must have the best rooms in the hospital. Whether it is ten, twelve or fifteen dollars a day, they must have one of the best rooms with bath even though they know and have been told, if it is a surgical case or even a medical case, that they won't be able to use the bath perhaps for ten days or two weeks. Still they demand it.

Also, they have been taught that it is necessary to have a special nurse. In the city a special nurse costs fifty dollars a week, and in addition it costs one dollar and a half a day for the nurse's board in the hospital, or sixty dollars and fifty cents a week for a special nurse although a special nurse may be entirely unnecessary.

Even admitting that a special nurse, after a surgical case, may be necessary or at least desirable for two or three days, after they have had a special nurse for two or three days they feel they would like to have the nurse continued as a companion because it is very lonesome alone in the room. They are no longer content with ordinary floor nursing but demand a special nurse.

At the end of the illness they find that they may not be able to meet the hospital bill and it will take perhaps a year or so to pay off the hospital bill, and the result is that the doctor's work is done gratuitously.

That is the doctor's fault. The doctor should see what the economic status is of every patient that he expects to take to a hospital, and he must regulate the amount of his fee and the amount which the patient is permitted to pay to the hospital according to the economic status of the

patient. The patient who is not able financially to pay for a ten- or fifteen-dollar-a-day room should be compelled by the doctor to take a room for which he can afford to pay.

If a doctor finds that a patient is not financially able to pay for a special nurse, the doctor should insist that he have no special nurse. In other words, the doctors should see, as part of their business, that patients are not permitted to run up higher hospital bills than are needed and are demanded from the necessities of the case and that the individual is unable to pay.

So we see that the high cost of medical care is not only the fault of the people but in certain cases the direct fault of the doctor.

Another way in which the doctor is deprived of just returns for his services is when he is requested, for so-called altruistic reasons, to donate his services for the benefit of the public. The physician has no obligation, either morally or ethically, to work for nothing for the benefit of the public any more than any individual in any other line of endeavor. But because for years and years, as a result of tradition, the physician has come to be viewed as an altruistic individual, which I will say is false, he feels he must be imposed upon by every demand that is made for his services in the name of altruism.

The people have come to know this. Legislators have come to know it. Laws are passed compelling the physician to do certain work free which legislatures would never think of imposing upon any other class of people. This is along the line of public service work for the benefit of the community.

The physician has no obligation to do public health work without just compensation.

The matter of infant welfare is another duty that has been imposed upon the physician. In the city, infant welfare stations have been established in all sections of the community. Doctors were asked as a matter of altruism, and a compliment sometimes to their vanity, to assume charge of these infant welfare stations, and to advise poor people, mothers particularly, how to feed and care for their infants. But it was not long until it was found that women in furs and fine raiment drove up to these infant welfare stations in automobiles, took their children in and had them weighed, measured and tested to see if they were up to par, and to be advised if they were not as to the

line of diet, and so forth, an imposition on the profession.

Free school clinics in the city is another way of imposing on the physicians. It is but recently there was an article in the Chicago Tribune of the establishment of free pre-school clinics and it was stated in this article that physicians were to be asked to donate free two hours a day of their time to attend these pre-school clinics; a pure imposition and one which a knowledge of economics should prevent the doctors from doing.

There are certain charges on the public, on the state and the community; for instance, the paupers. We all acknowledge that the class of people which we may designate as paupers are a direct charge on the community. The physician has no moral obligation to assume the care of a community or a state charge without being compensated by the state.

For the physician there is no obligation, either moral or ethical, to donate his services to free clinics where those who are treated in the institution are direct charges on the community.

There are many other ways in which the physician is imposed upon under the name of altruism.

If we come back to the medical societies, the clerical duties which heretofore belonged to the secretary, the secretary has long since outgrown. The secretary in place of being a clerk with simple clerical duties in the medical society today has become the motive power of the society.

If I were to paint what I believe to be the type of secretary we should have, I know we would all rise up and say, "There ain't no sech animal." I believe the secretary of today should devote his study and his energies not particularly to the advancement of medical science—that is well taken care of—but to a study of economics. He should inspire the members of the society with a desire to study medical economics. The medical profession has come to the point where it must study economics and govern and regulate practice along sound, economic lines, or the medical profession is going into decline.

There are too many millions of dollars donated today to the establishment of foundations, the sole purpose of which is to see that people receive medical care at rates less than the doctor can give it. There are in Chicago today \$400,000,000 in the shape of buildings and endowments that have been given for so-called altru-

istic purposes. That means that institutions of the kind, foundations, are going to see that the full obligation of the medical profession to take care of all of the sick is to be fulfilled, and if the medical profession doesn't assume that obligation and see that it is carried out, these foundations, these organizations, are going to see that it is done without you.

I think the greatest problems today which confront the profession, and which it is the duty of the secretary to bring before his local society, and keep before the society, is the question of medical economics. But we want to be sure that in bringing these subjects before the society that they are brought up and acted upon in a deliberative and judicious manner.

It won't do to proceed too hastily, proceed too radically, but every action which we take must be thoroughly studied, must be viewed from all of its aspects so that when a decision is finally reached it will be a decision governed by justice to all concerned. (Applause)

Chairman Warnshuis: After all has been said and done, after the motion has been made and the resolution carried, it is just as Dr. Harris said, the secretary is responsible for the applying of that activity that his county society has indicated as being desirable. As in the County Society, so in the State Society, and as in the State Society so in our American Medical Association it is the secretary upon whom rests the responsibility of our response to our acquittal of the trust that is reposed in us.

As you and I know, as secretaries, the tremendous amount of work that is entailed in such a responsibility, you and I can appreciate in our limited spheres what it must mean to be the Secretary of the American Medical Association. The man who now occupies that position is peculiarly qualified because of his training first as a County Secretary and then as a State Secretary for the state of Tennessee and a health officer for the state of Tennessee. He now assumes a dual role that was administered first by Dr. Simmons, whom we all love and adore and know what he has done for your national organization, and for our former friend, Dr. Craig, who has gone beyond who occupied the office of Secretary of the American Medical Association. Dr. Olin West now assumes the two roles, Secretary of the American Medical Association, and General Manager.

It is my pleasure to introduce to you now Dr. Olin West. (Applause)

Dr. Olin West: Mr. Chairman, County Secretaries of Michigan, Members of the Michigan Council: I want to extend to all of you, in behalf of the administrative personnel at the headquarters of the American Medical Association, a most cordial welcome to Chicago and to the building of the American Medical Association. We feel honored in having you here, and we expect to derive quite as much benefit from your visit as you can possibly derive from coming to see us.

When you have opportunity tomorrow, we want you to see as fully as you can something of the work of every department of the American Medical Association. We shall be happy to have you ask any questions that you want to have answered, and we shall especially appreciate any suggestions that you may have to offer us. Nobody in the organization of the American Medical Association has ever come to the point where he feels that he is above criticism, and while we are very proud of the organization that we have consisting as it does of some 500 individuals all of whom work hard for the advancement of the interests of the medical profession and for the public service, every one of them is open to suggestions and we believe that you, tomorrow, will be able to give us some which I want to assure you again will be heartily welcome.

I have not known and don't know just yet what I am going to talk about, but I am not going to try to detain you very long. I am not going to tell you very jokes. I want to assure you that Dr. Fishbein is a much better editor than you might think from the three so-called jokes he told you. I want to assure you, without any fear of successful contradiction, that he is very much more up-to-date as an editor than in his jokes. (Laughter) By the same token, our honored President-Elect is a much more up-to-date surgeon than his joke is an up-to-date joke.

I very heartily agree with practically every word that Dr. Harris has said here tonight. I believe that the medical profession is imposed upon. I believe that it has allowed and still allows itself to be imposed upon. I do believe, however, that there are certain things that doctors get for being doctors, and that the medical profession as a profession and individually as physicians has upon them by the very nature of their calling certain responsibilities which none but they can meet, and which they must meet with or without reward.

We are faced with many what we have

been pleased to designate of late years as problems, some of which in my judgment are really pseudo problems, manufactured, with not much real existence in them. Some of them are problems that affect the medical profession as a profession. Some of them are problems that affect medical organization as such, and of course every individual physician has his own problems just as does any individual citizen in any walk in life.

Some of these problems in my opinion, as Dr. Harris has so broadly intimated, have been created by the medical profession itself. Some of them have been created by the public; some of the real problems, I mean. Some that appeal to some of us as problems are really not problems and do not exist except in imagination or in the thought of some reformer or some agitator. There is, in my judgment, one answer to most of the problems that affect the medical profession and which the medical profession can solve, and that answer is to be found in the delivery of adequate scientific medical service to those in need of medical service. In my opinion the first and the everlasting problem of organized medicine is to meet the situation by doing everything that it possibly can do to make every individual physician a better physician.

I believe the primary reason for the existence of medical societies is that they may promote the art and science of medicine, and I know no way in which that can be better done than by helping every physician to be a better physician and to render better service.

While I believe that medical organization ought to consider as fully and as thoroughly as it can do, and as helpfully as it can do all of these economic problems, I believe the fundamental thing to be kept in mind always is that our first duty is the promotion of the art and science of medicine, because I don't believe that it is possible for physicians to serve public or to serve the profession better than to render the best service that can be rendered.

There are many of these questions affecting medical practice and medical organization today that ought to be very thoroughly and very solemnly discussed in society meetings and in meetings of groups of this kind. There are some evil tendencies that need to be corrected, and that can be corrected only through the persistent effort of medical organization.

There is a tendency that it seems to me is becoming more widespread and more

forceful to get away from professionalism, to get away from the ethics of medicine. I am constantly hearing it said by men that come here from all over this country, "Our ethics are obsolete. There is no reason for all of these ethical rules." Just today a man from a neighboring state was in my office while your Council was in session who came for the purpose of arguing with me that the medical profession ought to advertise, that any rules of ethics which are intended to prevent advertising on the part of the individual physician ought to be wiped off the book. Of course I didn't argue very long with him because it is my conviction that unless the ideals of medicine are maintained, unless the rules of ethics as they are drawn are lived up to we cannot exist as a profession.

If you want to turn medicine into a business, abolish your rules of ethics, forget the ideals and the traditions of the profession, and you will be in business up to your necks within one hour after that is done, and your service to the public will not be worth anything at all. Your relations one to another will be of such character as to be absolutely unbearable.

In my humble judgment, Mr. Chairman and gentlemen, there is nothing that organized medicine can do today that is more important than to revive a steadfast determination to live up to the richest ideals and traditions of our profession, and to fight on any battle ground that may be necessary for the continuation and for the absolute observance—absolute may be too strong a word—but for the reasonable observance of our time-honored rules of medical ethics.

There is another very serious question that, in my humble judgment, demands the careful attention of organized medicine today, and when I say organized medicine I mean the regular organization of medicine as it exists in the County Medical Societies, the State Medical Association and the National organization. It seems to me that every man that has a notion come into his head runs off and starts another medical society of some kind. We have colleges, institutes, clubs, societies, convocations, congresses, conferences, associations, and this, that and the other until there is no end of them. There is a multitude of them. Whether you realize it or not, I am here to tell you that they are sadly undermining the efficiency of medical organization and that they tend to the destruction of the County Medical Society especially. It has gotten to

the place where many of our County Medical Societies no longer have meetings. The staff meetings of hospitals required by this, that and the other organization have crowded them off the map, and I am beginning to wonder if we are going to be forced to substitute something for the County Medical Society. I am almost convinced that unless the members of the County Medical Society take the matter in hand and stop this dissipation of allegiance and put the effort that they spend in all of these extraneous organizations in their own fundamental organization that you will have to do something and substitute something for the County Medical Society.

I am speaking a little vigorously about it because, as I see it from where I sit, it is one of the most serious problems before us today as an organized medical body. Some of these organizations are interfering pointedly—I am not saying they are interfering deliberately and on purpose—with our medical societies, the County Medical Society and the State Medical Association, to say nothing of the National organization.

Now their members are our members. There cannot help but be dissipation of effort and dissipation of fealty and loyalty when all of these various organizations, some of which may have good reason for existence and some of which may not—some of which do not, I am even willing to say—there can be but dissipation of effort and waste of effort and dissipation of fealty as long as these multitudinous organizations are allowed to exist and to continue to multiply.

Dr. Harris has told you something of the tendency to the further development of paternalism. Our government is getting to be paternalistic. In many respects, it seems to me, there are those who would also make medical organizations paternalistic. I am very much amused at times when men who howl loudest about the paternalism of the government come to the American Medical Association and are perfectly willing for it to take over everything that they ought to do for themselves.

By the way, Mr. Chairman, I want to stop here just long enough to express my conviction, for whatever it may be worth, that the strongest society in county or state is the society that does its own work for itself. I think there is a trend in some of our state associations to do the work of the County Society for it and, in my judgment, that sort of a program will result

inevitably in the destruction of the County Society.

Our whole purpose of life, of government and everything else these days seems to be to make it as easy as possible for the individual and for the group. I think that is one of the most evil tendencies of the times. The County Medical Society ought to do its own work for itself. There are things that the State Medical Association can do for it, and ought to do for it because the County Society can't do them. There are things that the American Medical Association can do for the State Association because the State Association can't do them. There are things that the state could do for the county, there are things that the American Medical Association could do for the state, but ought not to do because those units ought to do their own work for themselves.

We have been rather proud here of the record of the Michigan State Medical Society. We believe that tremendous, real progress has been made in Michigan in medical organization and in the results that have been bestowed upon the public through the efforts of the Michigan State Medical Society and its component societies. I am glad that this tendency of which I have spoken has, in so far as I know, not come into evidence in the state of Michigan and I congratulate you, Mr. Chairman and the Council and the Secretaries of the County Societies of that state, that this is true.

I am inclined to believe with Dr. Harris that one of the greatest menaces threatening medicine today is the millionaire with misguided ideas of philanthropy. Just recently a very charitable man possessed of many, many millions, who has given away many, many millions, has given away some more millions to provide medical service for the white-collar man, or what we call the middle class.

I read an article from him not a great while ago in one of the very popular magazines in which he discussed these questions of philanthropy, and that article seemed to me to be very sound; his views seemed to be sound as they were expressed there. One of the soundest was that the millionaire who has money to give away ought to get the best counsel available, but this very man who wrote the article has recently given away millions and, so far as I have been able to ascertain, has never asked one word of opinion from any physician in connection with his recent donation for providing medical service to the middle class.

I don't know how they are going to provide medical service to the middle classes without working harm to those very classes that they are supposed to be going to help. If he would give \$40,000,000 for teaching those people to stand on their own feet and look every other human being on earth straight in the eye and demand what belonged to them, and work for what they get and pay for what they get, he would render far more valuable service than he can ever render by making money available, the use of which will tend to pauperize the individual.

As I said in the beginning, the answer to many of these so-called problems will be found and will only be found in the delivery of adequate scientific medical service to all who need medical service. I am not concerned very much, in fact I am not concerned at all, about the cults and quacks. They have always been as thick as thieves all over the face of the earth, and if you were to wipe them off the face of the earth tonight there would be just that many more tomorrow night. I am not so sure but that we have kept some of them alive by our own agitations.

Two or three years ago the Palmer School of Chiropractic had 3,000 students in it. Today it has less than 300 I am reliably informed. It has killed itself, and I believe it might have done so a little sooner if we had been a little more quiet. The very first president recited the fact before the very first meeting this Association ever held that the quacks, the fakirs and the cultists swarm over the land like flies. They have always been here; they always will be here, and the way for us to get rid of them, as far as that can ever be done, is to deliver the goods. When that is done there is nothing on earth that can take the place of scientific medical service. There can be found many substitutes for poor medical service, which is the poorest thing in the world, but there is nothing that can displace good medical service. Think it over! It can't be done.

So I say again that in my judgment the first duty of organized medicine is to do everything possible to make every member a better physician. Our County Societies can do it not only through providing good scientific programs but also through the provision of good programs dealing with these questions that Dr. Harris has talked about, and that I have referred to. It can do it by bringing into social contact the members of its own group. It can do it by rendering the service to the public that the public has a

right to demand of it as an organized group.

It has a responsibility I think, and I think Dr. Harris will agree with me, that rests upon the medical profession and that is to say in certain public positions. If I had my say, I would have a first-class physician on every Board of Education in the United States before tomorrow night, and if he didn't work I would put him off in ten minutes and put on another one who would work. So I would put good physicians in many places of public trust of that kind where they can render an invaluable service that nobody on earth can render. There is an opportunity for service by organized medicine, by your group and by every group in the United States.

The State Medical Society of Michigan renders a very distinct service to the members through the publication of a journal, a good journal. The County Society can't do that for itself and the State Medical Association can do it and does do it, and does it very creditably.

The American Medical Association tries to discharge some of the obligations that rest upon it by the publication of what we fondly hope are truly representative scientific journals and other periodicals. Those are duties that devolve upon the American Medical Association because it alone is in position to assume them and to carry them out.

But in closing I want again to repeat the thought which I have already given expression to, that the County Medical Society is only as strong as it makes itself, and that this is equally true of the State Association. I am gratified to be able to express my very sincere conviction that the state medical associations in this country today are far stronger than they have ever been before, but I regret exceedingly to say that in some instances the county medical societies appear to be weaker than they have ever been before. If that is true, it is a challenge to every county medical society in this country, efficient or otherwise, to get on the job and to make the strong ones even stronger, and to devise some plans whereby the weak ones can be made strong. Whatever it may take to do that ought to be done.

Again, Mr. Chairman, I wish to welcome this group very heartily to Chicago and we should be especially delighted to have every one of you at the headquarters building tomorrow morning where we will be very glad indeed to do whatever we can for your convenience and give you any in-

formation that you may wish to have that we can provide. We hope you will look into every crack and corner of that building and try to get as much information as you possibly can about what we are trying to do there.

I thank you very kindly for your courtesy. (Applause)

Chairman Warnshuis: For no other reason than just having heard Dr. West and what he has said tonight would we have been justified in coming to Chicago for this annual meeting of the Council and the members and Secretaries of our County Societies.

As you have gained an inspiration from what Dr. West has told you tonight, a similar inspiration awaits you tomorrow in your visit to the building of the American Medical Association which is your home. This meeting tomorrow morning is going to be called to order at nine o'clock. There are going to be short talks given by representatives of the various councils and bureaus of the Association, and then we are going to give you a sardine sandwich. Dr. West has arranged to have three police officers at each door leading into that building so that after you check in remember you are sentenced to one day of service at the headquarters of the A. M. A. tomorrow and you can't get out until five o'clock tomorrow afternoon. After you have gone into every creak and crevice the Association has over there and you have gained that inspiration I am sure each one of you will be 100-fold repaid for having come to this meeting.

We have here tonight Dr. Dodson, who is Secretary of the Bureau of Health and Public Instruction. I am not going to ask him to talk, but I just want him to stand up a minute and say hello to you. (Applause)

We also have with us Dr. Caldwell, who has been the inspiring Secretary of the Council on Medical Education and Hospitals, the individual who has created the standards for medical education in this country and who is now devoting his time to standards of hospitals. Dr. Caldwell, who is going to tell you tomorrow how to knock out the staff conference meeting that is putting out of business the program of our County Society. (Laughter and applause)

Is there any secretary who wishes to ask any questions or anything pertaining to the meeting tomorrow, or on anything that has been said tonight?

The headquarters of the American Med-

ical Association is at 535 North Dearborn Street, just a few blocks across the river. Taxicab fare from this building is forty-five cents. We are going to be on the job at nine o'clock tomorrow morning, and we stand adjourned tonight.

... The meeting adjourned at nine o'clock ...

THURSDAY MORNING SESSION

January 17, 1929

The meeting convened at nine thirty-five o'clock, Dr. L. J. Hirschman, President of the Michigan State Medical Society, presiding.

President Hirschman: Fellow Members of the Michigan State Society, and I was going to say our guests but they are really our hosts of the American Medical Association: We are starting a little late. Those of us who have come from Michigan want to get all the nuggets of knowledge which are going to be poured fourth from the heads of the various councils and bureaus and departments. We start without any further preliminaries, and as each one of the gentlemen who are going to favor us this morning are so full of their subjects we want them to hit the high spots and give us the essentials. Of course, papers of this kind will not be discussed, but I am sure any of them will be glad to answer any questions about the work of the bureaus.

None of them need to be introduced, but I will present Mr. Will C. Braun, Business Manager, who will tell you something about the American Medical Association headquarters and maybe something about the Journal. He is a great all around manager. (Applause)

Mr. W. C. Braun: Mr. Chairman, Ladies and Gentlemen: Both Dr. West and Dr. Warnshuis were good enough to ask me to say a few words to you relative to the business and mechanical activities of the A. M. A.

It being almost two score years since associating myself with the organization, I have had the pleasure of seeing it grow from an infant to, as our friendly enemies call it, a medical trust. By the way, I used to boast of my long connection here, but recently on mentioning that I had been with the A. M. A. nearly thirty-eight years, Dr. Fishbein spoke up saying, "Yes, and you look it."

When I hear the A. M. A. referred to as a trust I am always glad of an opportunity to explain that it means the Association is a trust to protect the public

against medical fakes and fakirs. I tell the story that this is the only organization I know of that works against its members. It keeps folks posted so that they may keep well and not require the services of a physician.

When I came to the Association, in 1891, the office was maintained in the center of a dingy typesetting room occupying a space 12 x 15 feet, with a pine railing around it and with two small gas jets furnishing illumination. This was at 68 Wabash Avenue. I was then the book-keeper, advertising and subscription solicitor and copy-holder for the proof-reader. Three years later the Association moved to 8 Wells Street and after being there three years, unfortunately, or possibly fortunately, we had a fire compelling us again to move, this time to 61 Market Street. At this address we had what we considered palatial space, a room 100 x 125 feet. There we purchased our first linotype machine. By 1902 we had begun to shed our swaddling clothes, and purchased a part of the property that we now occupy. At that time there were five three-flat buildings on the property. We razed two of those buildings on the north section of the ground and put up a structure 40 x 80 feet. Dr. Simmons, who was then General Manager, Secretary and Editor, felt that a two-story and basement building would be ample, but he was persuaded to add another story. Within two years' time we were again cramped for space because of the American Medical Directory being put into execution. Still another story was added and the building was extended back forty feet, the Association in the interim having acquired forty feet additional frontage on Grand Avenue.

Like the proverbial snowball, the Association kept on growing. Lack of room compelled the use of one of the old buildings standing on a part of the property. In another five years it was decided to erect a new six-story building at the corner to occupy 60 x 100 feet. This left still standing the old four-story building on the north forty feet which at first we rented, but it was not long before we had to take back the two upper stories, as additional space was needed.

With our six-story building occupying 60 x 100 feet, we thought everything was settled for the future; but before ten years had rolled around activities of the Association had so increased that it was necessary to tear down the original building, buy another forty feet on the Grand

Avenue side and erect a new home to occupy 100 x 160 feet, the present structure, comprising six stories and basement and containing 112,000 square feet of floor space.

When I look back over those years, it seems like a pleasant dream. Of course it was a period of work, but it was a delight to see the Association grow and prosper and do so much good.

As I understand it, one of the principal objects in wanting you folks to visit us was to acquaint you with what the Association is doing, and for that reason we should like to have you take time to make a tour of the building. Arrangements will be made for guides to escort you through the various departments. So that you may have some idea of what is in store for you, I shall give a short sketch of the various floors.

Basement. This is really not a basement; it is what a realtor would call the first floor, but we call it the press room. Mr. Loomis is foreman. He is an expert pressman, and can almost tell good ink by the smell of it. Here you will find fourteen presses humming continuously. These presses average 2,256,000 impressions a day. This is constant performance, the presses being run day and night. On this floor is also carried a four weeks' supply of printing paper. This is done as insurance against delay, strike, or other unlooked-for contingency. Our yearly paper consumption is over 7,000,000 pounds. To give you some idea of the way the business has increased, I might say that we now use nearly 3,000 tons of paper a year as against the 2,100 tons of five years ago.

First Floor. The bindery occupies this floor. Ernie Booth is the head man. He has been with the organization twenty-three years, growing up from mailer apprentice. Here are located the folding machines, one of which, the Cleveland, folds 48,000 pieces a day. We have had this machine only about a year and it has already paid for itself in labor saving costs. While there is other machinery on this floor, one machine to which I should like to call your attention is the gatherer. It automatically gathers ten signatures or sections, wire-stitches them together, and pastes on the cover all at one operation. Our machine is one of the first made of its character; in fact, the manufacturer did a great deal of experimenting on it when it was first installed here. We have had it for twenty-two years, and though it has gathered nearly 800,000,000 sig-

natures of The Journal alone, it is still running to form. But, of course, during that time there have been replacements of parts.

Second-class mail is also assembled on this floor. Every week the post office sends a representative here who weighs the mail and then it is sent direct to the various trains going to different parts of the country. In this way, probably a day's time is saved in getting The Journal to the subscribers. At least there is saved the time of taking this mail from here to the post office, re-distributing it, and from there sending it to the various stations. Our weekly mail runs approximately 90,000 pounds, that is, second-class mail.

Second Floor. This is our composing room. George Harris is the Superintendent. He is really older than he looks because he has worked for the Association thirty-four years. Burt Williams is his first assistant, and is what one might call a good right-hand bower. On this floor all articles are placed in type, either by hand or on the linotype machines. Here, also, is the proof reading room, the stereotyping room, and the several job presses. From a mechanical point of view, this is probably the most interesting floor in the building.

Third Floor. Dr. West and Dr. Fishbein, with their numerous assistants, are domiciled here. Both of these gentlemen are most efficient in their respective duties, but their work here is only a side line. Their outstanding success, as with Dr. Warnshuis, is playing bridge whist in the winter and shooting golf in the summer.

On this floor also are the advertising, subscription and membership departments. Here likewise holds forth the cashier, to whom every one looks with longing eyes, some once a week and others once a month for his or her wages or salary. Getting a salary sounds a little more classy than getting wages; but even at that the wage man has the best of it because his pay comes around fifty-two times a year whereas to the salaried man it comes only twelve times. Thus you will see that the salaried man is really "done" out of four weeks' labor. But the honor of getting a salary probably compensates for the difference. Several of the salaried people now are looking forward to the proposed thirteen-month calendar year.

In the cashier's room you will see the automatic letter opener, and immediately in front of this department to the east is the postage meter, mailing machine. This

machine during December of last year sealed and stamped 250,610 pieces of mail.

I mentioned that the advertising department is on this floor. Last year the income from advertising amounted to \$1,000,000. This is high tide for that department. Here, likewise, is the cooperative medical advertising bureau which represents, in an advertising way, most of the society-owned state medical journals; in fact, it represents thirty out of thirty-two.

There are a number of interesting features on this floor; for instance, the automatic typewriters which actually print a typewritten letter. Through the assistance of electric juice and stencils, the operator actually performs on four machines at one time. The addressing machines for addressing Journal wrappers are also here.

Fourth Floor. This is occupied by various councils, such as the Council on Medical Education and Hospitals, the Bureau of Health and Public Instruction, and News, and the Foreign Abstracting departments. In this latter department translating is done from the French, Spanish, Russian, German, Italian, Norwegian, Swedish, Dutch and other languages.

Dr. N. P. Caldwell is Secretary of the Council on Medical Education and Hospitals. He has been on this job since the Council was organized in 1905. The Bureau of Health and Public Instruction is presided over by Dr. Dodson. Everyone knows Dr. Dodson, as for many years he was Dean at Rush Medical School and has always been interested in public health matters.

A goodly portion of the fourth floor is occupied by the Directory department, which at this time employs forty-five people. Hygeia subscription and promotional department is also on this floor. Mr. Cargill is the enthusiastic manager. He will tell you a-plenty about his departments if you give him an opportunity.

Fifth Floor. Here are located the library, the N. S. Davis Memorial (in this room our "mike" is in daily use for broadcasting), the Bureau of Investigation, the Council on Pharmacy and Chemistry and the lunch room. In the library the guiding spirit is Miss Hutchins. Not only has she charge of the library, but she also looks after many of the details of the Quarterly Cumulative Index Medicus. In the Bureau of Investigation Dr. Cramp is the head, and in the Council on Pharmacy and Chemistry you will find Professor Puckner.

I probably ought not to say it, but, confidentially, the Professor has long been a thorn in my side. As you know, one of my several duties, with most efficient help, is securing advertisements for the various A. M. A. publications, but since the inauguration of the Council on Pharmacy and Chemistry a number of years ago all is not wheat that comes to the mill. From the Professor's point of view, many of the advertisements offered to us are chaff, and they are cast aside.

Doctor Leech has charge of the Chemical Laboratory. Generally speaking, this is a big job for one man, but in addition to his work as Director of the Laboratory, Dr. Leech has charge of the scientific exhibit at the annual meeting of the A. M. A., and the work on this is not an annual occurrence, it is continuous the year around.

Sixth Floor. Here is the Legal Department (most efficiently conducted by Dr. Woodward), and immediately adjacent to it the Council on Physical Therapy where Mr. Holmquest presides.

On this floor we have just started the central scientific exhibit. By all means visit this. One of the exhibits will show you how rabbit hunting is made easy; that is, the exhibit on Tu-lar-e-me-ah. They tell me that if a rabbit runs slow and is easily captured, he has tularemia; that if he goes fast, and you miss him when you fire, he is a well rabbit. (Laughter)

At this time the Association has 469 employees. With this large group of people it is remarkable what harmony exists. Of course, differences occasionally arise, but the chief difficulty is complaints from the janitors that the employees come so early in the morning and stay so late at night they hardly have time to clean the building.

This is a brief, very brief, outline of the different floors.. I am sure that as you pass through them and meet the various enthusiasts I have casually mentioned you will come to the conclusion that each department must be the most important one in the building. I really think that this individual enthusiasm on the part of the several department managers accounts to a great degree for the success of the organization.

As I have heretofore mentioned, we hope you will at any opportune time go through the building, possibly in groups of four or six, accompanied by guides. The various departments will be glad to go into full details.

Thank you! (Applause)

President Hirschman: Mr. Braun is very modest and he forgot to tell you one of his additional duties, that he is general manager of the annual commercial exhibit of the annual sessions. That is a big man's job in itself, and is done in a way in which nobody can find criticism.

He described somewhat the various councils, at least in an introductory way. The next speaker, Dr. Caldwell, is a man everybody loves and whom they used to fear. He is a man who, instead of making things bigger and better makes them fewer and better. Dr. Caldwell. (Applause)

Dr. N. P. Caldwell: The Council on Medical Education and Hospitals, as Mr. Braun has told you, was started in 1904; I mean it was appointed and created in 1904 but didn't get to work until very late in 1905. I have been here ever since, fortunately.

One of the first works I had was to find out what all the rest of the world had in the way of medical schools and how we compared with those medical schools and standards. To my surprise we found we had 162 and all the rest of the world combined had only 154. So much for the number of Medical schools.

As to the standards, we had only two that were requiring any college work for admission and all the rest of them were high school education or less, and most of the remainder were less. So that our slogan, as our Chairman has inferred, was "Fewer but better colleges."

Reading in one of the convocation reports of New York, the president of Brown University at Providence, Rhode Island, made the remark that what this country needed was fewer doctors but more doctrine. I had the satisfaction later of sending him one of our reports to the House of Delegates in which it was shown that the number had been reduced from 162 to 80, and those having entrance requirements had increased from 2 up to 74. That reduction took place almost entirely through mergers. That is, colleges which are worth while, those rated in our Class C and Class B, have merged. Down at Louisville, for example, there were five large regular schools and they merged into what is now the University of Louisville. In the two Kansas Cities, seven schools merged into what is now the University of Kansas. In Indiana six or seven colleges also merged into what is now the Indiana University.

So that process has been going on, not the killing off of worth-while schools, as

might be implied. Somebody might hear of the reduction from 162 to 60 and think there was a certain medical trust which is trying to stop competition entirely. Now the increase in the entrance requirements while the most marked, illustration was accompanied also by better buildings, better equipped laboratories, more and better teachers, increase in hospital facilities, hospital and out-patient department facilities. At first there were a majority, I think, that didn't have enough clinical material to furnish anything like satisfactory clinical teaching. Now all of the 74 schools have either their own hospitals directly or have very liberal rights and privileges in city or state or private hospitals, so that that is what has been going on.

I should like to say just a few words in regard to the early history of medical education in order that we may understand the progress since the Council was organized. This country has never established any legal supervision over any kind of education including medical, nor over the practice of medicine. The influence from the beginning which was exerted for improvement and the efforts to gain improvement was through the profession itself.

Of course, you know our American Medical Association was organized for that purpose, and there were certain groups of men which worked unusually hard to bring about better conditions, so that, first, certain councils or counsellors representing state medical societies which exerted at the beginning the main semi-legal power over medical schools but even their influence could not be remarked. There was only one instance in all time when a state licensing board was organized with the proper conditions—mind you, this is not a criticism of a lot of splendid work that even now and has been by state boards—but the one marked instance where there was actually a nation-wide influence was when the Illinois State Board of Health was established in 1877. That is the same year the Practice Act was adopted in Illinois and it was the same time when Dr. N. S. Davis and a group of workers here in Chicago were using all the influence possible to have the graded system of medical instruction established.

Dr. John H. Ralph, Chairman and President of the Board, and later its Secretary, and with him six co-workers who were all men of high ideals were held together in this place through seven Re-

public administrations of two years each. During that period the work of that Board was remarkable. In fact, there were 5 diploma mills closed, and the entrance requirements of medical schools was raised from almost nothing to a pretty well enforced high school course; that is, the majority of schools.

Then came a change in administration when Governor Altgeld was elected, which brought with it a sweeping out of office all of the state councils or committees. Of course there was snuffed out, just as you would snuff out a candle, the powerful influence that had been observed by the State Board of Health, and following that the increase in the number of medical schools through this failure to provide supervision over the chartering of educational institutions.

Following 1800 the number of schools had increased far more rapidly than the increases in population, so that it was in 1900 that the highest point was made, 160, although at one time later it ran to 162.

As you know, 1900 marked the reorganization of the Association whereby our House of Delegates was created, and from that time on you have seen in all lines, progress much more rapid in all the departments of the Association.

The Council has been rendering its work first through the establishment of an annual conference, and those annual conferences have been increasing in size and I believe in importance. Before you go out, I want you all to get a program of the forthcoming conference which will be held February 18, 19 and 20.

The next main step was to establish two standards which colleges were urged to adopt, and the first one was merely a completed four-year high school education for admission, a four-year medical course and an examination before a licensing board. That was followed by a suggested standard, as soon as it could be, to raise the entrance requirements to one year of college work. That has really made the requirement for Class A in 1914, and in 1918 it was raised to two years of college work. So that now all the 74 schools, really 75 now, are requiring for admission two years or more of college work. There are some eight or nine that require three or four. Only two require a degree. There are about nine that have the one-year requirement.

Speaking about that requirement, the two years of college work in this country just brings us on a par with the entrance

requirements of the medical schools of Europe. You see there the secondary school carries the student higher than our secondary schools in this country. After one has graduated from any of the high schools, secondary schools of Europe and Great Britain, in coming to this country they secure advance credit of one and one-half to two years in our colleges. I don't believe that is quite as generous as it used to be. The requirements of two years of college work doesn't bring us far and wide beyond any other country, and brings us merely on a par, which is a reasonable requirement.

In addition to the conferences, then came the first classification of medical schools in 1906 and 1907. During that college year the first inspection was made of all schools on a sort of civil service basis, and they were given a rating on a percentage basis. Those having 70 per cent or above were in Class A; those between 50 and 70 were in Class B, and those below were in Class C. The Class C schools have all disappeared excepting six, and last fall the Council at its meeting decided that those schools were really being kept alive through our own actions. They were rated in Class C and it was shown their diplomas were not recognized in more than one state, two in one instance. They were allowed to go ahead because they were listed among medical schools, and in that way we were helping to perpetuate it.

At the last meeting the Council voted that hereafter those schools were not even to be recognized as medical schools, and any one who graduated from them and succeeded in getting a license wouldn't even be recorded in a directory as being a graduate of a medical school, but merely as an institution not recognized as a medical school by the Council on Medical Education. So that, we feel, is going to at least take away the Association's responsibility for even directing students toward those institutions.

In 1920 the Council's name had two words added to it, "and Hospitals," and all the work of hospitals was turned over to the Council of Medical Education and Hospitals. Prior to that we were naturally interested in hospitals as they were connected with medical schools and as they were furnishing intern training, but at that time there weren't enough hospitals willing to look at interns to provide places for all the students then graduating, and that continued in that way practically until 1915. Especially since the War the num-

ber of hospitals looking for interns and wanting them has been greatly increased, so that now there are more hospitals seeking interns than can get them. That has given the opportunity to require a little bit more of an educational atmosphere in hospitals for those wanting interns.

To make the statement brief, we now have three lists of hospitals, those admitted to the hospital register, and those can be any size hospital so long as it is run in an ethical manner and is considered to be a place where patients can be sent with fair safety of receiving proper attention; in the next higher list are over 6,000 hospitals, 6,825, and those vary in size from seven beds up. Only those that are considered as reputable are now named in either the Journal or in the directory and they are referred to as registered hospitals. Then comes the intern list. There is something over 800 hospitals in that list now. Before two years ago the situation wasn't such that any definite requirement could be made of intern hospitals, but the time had come right because we found that on the list of hospitals approved for internship the majority of them had from as high as 85 per cent of autopsies, or 85 per cent of deaths in hospitals where they had autopsies held on them. So that requirements then, which was mild and reasonable, was that 10 per cent of all deaths should be autopsied beginning in 1928, and beginning this present January it has been further increased to 10.

When we sent out notices to hospitals that needed to secure these, we expected to find a good many objections. To our surprise we got many letters commending us for the action because in many instances there were certain individuals on hospital staffs which were opposing, and perhaps opposing with sufficient strength to keep the autopsies down to less than 10 per cent. Other hospitals at first wrote in and said it was utterly impossible and couldn't get them. The surprising thing is that we tried to encourage them to do it and furnished them printed data with regard to autopsies, so that percentage has been increasing just like the temperature rising on a temperature chart. So we have had some very enthusiastic letters in that respect. When they got right at it, they found it wasn't nearly so difficult as it seemed.

Then, again, I think you will all agree that there is no one factor in any hospital or medical school where diagnosis proper diagnosis can be stimulated, and

which are more educational in their value than these conferences where reports on autopsies are given, and the so-called clinical-pathological conferences are held.

Another important thing in hospitals, next perhaps to the autopsy, is the staff conference. There is where reports of all deaths are presented to the staff members and any questionable cases or doubtful cases are given full discussion right in the official family of the hospital. Where autopsies are held and interesting facts are brought out, these are also presented at these staff conferences.

These have proved to be very helpful, indeed, and extremely interesting. I have heard people say they would rather miss their meals than miss their hospital staff conferences.

This brings up the question that arose last night with regard to the apparent conflict between county society meetings and staff conferences. In our Secretaries' Conference in November the same question was discussed, and there are some places where the county societies are meeting around in different hospitals attending these staff conferences. Most of the members of local societies, in cities at least, are members of hospital staffs, and the thing is that we can't do away with the hospital staff conference because there is where the hospital checks up the results of its work, and if things are going wrong in a hospital and certain members are performing operations that they shouldn't perform and doing clumsy work leading to the mutilation or death of their patients, there is the place where that should be checked up. If an offending member continues to offend he should be taken off the staff. One of the essentials in conducting our hospitals is to do so in a manner in which they will be to the credit of the profession. Some way certainly can be worked out whereby the county society meetings can take advantage of these excellent and helpful conferences, where interest and education can be shared by both institutions alike.

I want you to particularly see the files downstairs. One is what we call our students' register file. We started now and, as you know, get reports of the students at the time they enter the medical schools. We used to get them at the time they graduated. If a doctor gets out and gets into practice you can write him until doom's day and you can't get any information out of him. Where we start with the beginning of his career we follow him through in chronological order. We

don't get the definite grades, but we do verify the fact that he entered the school and was promoted to the sophomore, junior and senior years and graduated on a certain date. If it took him three or four years to complete the class, the facts are shown in their chronological order. We don't attempt to find out why he had to take the time. There might have been sickness or other causes. One of these might be on a professional job, spending half of his time in that.

The other files are the files of college graduates which we have there, the files of medical school announcements of which we have practically a complete file; another is the hospital files, and also the reports which we get from state licensing boards. (Applause)

Dr. Warnshuis: Dr. Hirschman is utilizing this time to do a little broadcasting over the "mike" in the next room, so it is my privilege to introduce to you the next speaker, Dr. Leech, who is going to talk on "The Laboratory." In addition to the laboratory work that he does here, he is the man that has been delegated by Dr. West to run the scientific exhibits at our annual meetings. If you have never been to an annual meeting of the American Medical Association you have missed one of the finest educational features that exists in the country, the scientific exhibits. Dr. Leech. (Applause)

Dr. P. N. Leech: A chemical humorist, Clawson, says that while sound travels at a speed of about 11,000 feet a second it takes about twenty years to penetrate through the ear into the brain.

Our chemical laboratory has been in existence for twenty years and we are beginning to see the effect of the work that was started, of the vision of men like Dr. Simmons and charter members of the Council on Pharmacy and Chemistry, and Dr. Cramp. In fact, the work of the chemical laboratory is being more widely appreciated by the profession at large.

Chemical laboratories are a rather technical thing to talk about. It is difficult to put across exactly the work which a laboratory does because, undoubtedly, the technicalities are of such a nature that they appeal more to the man who is a chemist than to the layman. But in the case of our chemical laboratory we can at least point out some of the results.

The functions of the chemical laboratory are three-fold: one on the Council on Pharmacy and Chemistry; second, a certain amount of independent work to the service of the profession; third, the

Bureau of Investigation. The work of the Council on Pharmacy and Chemistry, and the Bureau of Investigation will be explained by the speakers succeeding me.

Let us take up a few of the problems that confront a chemist in the laboratory of the American Medical Association. You will recall about three years ago ephedrin was introduced in such a manner that there was a certain romance connected with it. It was an old Chinese drug, and had an action somewhat like epinephrin. We are all familiar with the fact, of course, that ephedrin is a different proposition in so far as it has two isomers one of which is practically inactive, while epinephrin has four isomers. The products were unstandardized. A man on the Atlantic Coast and a man on the Pacific Coast may get the product of barren activities, and when they again record their results in medical literature the results are not accountable. The chemical laboratories are endeavoring to standardize ephedrin, and we are glad to report that there isn't, to our knowledge, a manufacturer of one of the better grades of ephedrin that is not preparing according to standards. When a manufacturer hesitated about complying with our standards we would not modify them, and he came across six weeks later and said he could afford to furnish the same grade even though it meant discarding about 40 per cent.

In all this work, the public comes first and the medical profession next. The manufacturers now, without any governmental control, will put on the market a product which has been accepted as standard by his chemical laboratory on neutral acriflavin or acriflavin hydrochlorid. Manufacturers both here and in England have now agreed to manufacture the products according to definite standards, so that an Englishman will not say, "I wish I had as good acriflavin here as they have in America."

You may recall that even as recent as two years ago there was an article on salyrgan of a few pages. There was a laboratory report, "Where is the mercury in ionic form or other impurities?" The chemist took a tremendous amount of time. It was essential to rule out mercury in any other form than combined with that molecule.

That, in a way, is the word picture of the work we have had to do on the Council. Pharmacies have been investigating products of the shot-gun type which the manufacturers have the effrontery to sell

under claims either secret or semi-secret.

Through the caffeine that exists in coffee we entered into the examination of those products. We found products were not exactly what they were claimed. We hope we have presented to the medical profession the necessity of not knowing how much caffeine was removed. How much caffeine is there in a cup? The result of our work and considerable collaborative work, a rather expensive investigation if you please, has made us feel that the products are now on a basis in which confidence can be had, and it seems to the laboratories in the long run the manufacturers that have that attitude should be grateful for the investigation because it shows the products were not what they were claimed to be.

The work of the Bureau of Investigation, of course, is difficult. It means we have to guess until we get 100 per cent analysis. We have no books to go to to determine how to do this or that. We have a system of checks and re-checks. We must be extremely careful or the analyses are inaccurate, and we may injure someone because of some error. We must see that the prestige of our profession is upheld. You can appreciate the necessity of extremely careful work, and the laboratories always felt very grateful to the Board of Trustees for providing us with the wherewithal to permit us to do good work. There is one thing that the entire force of the laboratory insists on, and that is that work should be thorough, thorough, thorough. Otherwise you might get into an unpleasant lawsuit. The Board of Trustees of the National Association have always been very generous in standing back of the laboratory.

That reminds me of the story of Long John, a prospector out in California. If there was one thing he liked it was one of the round cans of lobsters. He would send to the mail order houses for it, and he made up his mind that if there ever came a time when he struck it rich he was going to have all the lobsters he wanted.

Fortune smiled on Long John several years later so he took a trip to New York. He got dolled up in the very best clothes and was going to the very best restaurant. He went in with a good deal of swagger and they seated him at a rather prominent position in the room. The waiter came and Long John said, "I should like to have twelve lobsters."

The waiter said, "I didn't understand you, sir." Long John repeated the order, and the waiter said, "I wonder if I got

you right. Did you say twelve lobsters?"

Long John said, "Yes."

Soon the head waiter came to him and said, "We have a new waiter on and we are not certain, sir, but did you say twelve lobsters?"

Long John said, "I said twelve lobsters."

There was quite a pause, but in due time there came from the kitchen entrance a regular procession of twelve waiters, each one carrying a silver platter with the service and lobster. Long John was keen enough to see that something was up. He made the first one take off the cover, he looked at the lobster and motioned him along. He had the second one remove the cover and he motioned him along, and the third, the fourth, and so on until he got down to the seventh one. Then he said, "Heaven knows that is the only way you can get a decent lobster in New York." (Laughter)

The chemical laboratory has to use a certain amount of selection, but it isn't quite that crude, in taking up the various problems. It cannot take up all the various things that the medical profession as individuals would like.. We should like to cooperate with you County Secretaries as fully as possible. If you have any inquiries to ask about any product, don't hesitate to ask. We cannot do any work for individual physicians, and we must take up only those products that are of interest to those at large.

I want to express to you the appreciation of having as colleagues men who are exceedingly devoted to the work and excellently trained. I hope when you go through the tour of the building this afternoon you will have time to investigate the laboratory as thoroughly as possible and meet these men. Our laboratory is not perfect. We are open to criticism. We also think we have pretty good principles and we are glad to discuss them with you. (Applause)

Dr. Warnshuis: The next is the Bureau of Investigation, Dr. Cramp. Little needs to be said about Dr. Cramp. If anybody deserves a medal for having rendered a service to the American people Dr. Cramp is entitled to that medal. (Applause)

Dr. A. J. Cramp: Mr. Chairman and Gentlemen: The Bureau of Investigation is a later name for what was originally known as the Propaganda for Reforms Department of the Journal. The work of the Bureau, or the Propaganda Department, is an outgrowth of the work of the

Council on Pharmacy and Chemistry. The work of the Council will, of course, be described by Professor Puckner, who speaks next.

As you know, the Council was created essentially for the purpose of giving the medical profession unbiased facts regarding products that were offered by pharmaceutical houses to the profession for prescription purposes. It was not, as a great many physicians seem to think, created for the purpose of investigating patent medicine. The Council has never made a practice of investigating what are colloquially known as patent medicines; that is to say, those packaged medicines which are put up for the purpose of self medication and sold direct to the public.

It is a fact, however, that a great many products that originally came on the market as prescription products have graduated into the patent medicine field, and glycothymoline, sal hepatica, peptomangan, and a score of others, are some that you can think of as well as I can.

It started out, nominally at least, as prescription products advertised only in medical journals and therefore, of course, highly ethical. As soon as the unthinking and careless physician had made a name for the stuff by prescribing this in the original bottle, with the name blown in the glass so the public was well acquainted with it, the manufacturers made up their minds that their product was now sufficiently known that they could go on the market without any hesitation as a true patent medicine which they always were from the time they were created. So that there is no very clear line of demarcation between the patent medicine and the so-called ethical proprietary of a certain type.

The Bureau of Investigation came into existence because as the doctors began to be interested in the problem of deception in the proprietary medicine field they also began to ask questions about the cruder proprietaries, the so-called patent medicines. Their patients would come in and ask them, as they do daily, "What is in this patent medicine I have been taking? What do you know about it?" The doctor would have to admit that he knew nothing about it because at that time there was no literature available. The state had not done any work worth mentioning in the analysis of the packaged medicines, and there was absolutely no information available.

They would write in to the Journal of the American Medical Association and if

it were possible for us to hunt through the records and find that some analysis had been made at some time we sent that information, but more often than not twenty years ago there was no information.

After the creation of a laboratory by the Association, it gradually became part of the laboratory's work to take up for analysis some of the more widely advertised patent medicine about which we received many inquiries, and which are generally distributed over the country.

At this point, I should like to suggest that many physicians are disappointed because they send in to us either a specimen of some patent medicine or request some information about patent medicine that has never been analyzed and ask that we immediately analyze it and report what we find. It is obviously impossible for the American Medical Association to analyze every patent medicine that is on the market, and in order that the work the laboratory does be of the greatest value to the greatest number we have established a general rule that we will take up for analytical purposes only those products that are nationally advertised, as a rule, and about which we receive many inquiries. In that way the expensive and time-consuming work of the laboratory proves of benefit to the greatest number. We have to turn down daily requests from physicians for analysis of patent medicines for which we have had very few or no inquiries previous to the one which comes in. I mention this fact because it is possible that some of you may have thought of sending in requests for information of this sort.

The big work of the Bureau of Investigation is not the weekly article that appears in the Journal, or the occasional article that appears in Hygeia, by which the Bureau is best known, but the big work of the Bureau is that of answering inquiries. During 1928, if we had had twenty more inquiries we would have had just an even 10,000. We had 9,980, and every inquiry was answered by an individual letter. I should say that in 97, or possibly 98, per cent of the answers we were able to give the inquirer some information of value. It is very rare that we can't be of some help to those that write in for information, and considerably more than half of the inquiries were from laymen during the past year. Twenty years ago, if we got a letter from a layman a week, possibly a month, it was unusual. Now, as I say, we got last year

from laymen alone 5,743 inquiries, with 4,237 from physicians; more inquiries from laymen than from physicians. The reason is rather obvious. Hygeia has broadcast to the country the fact that the American Medical Association has this service and the public is taking advantage of it. Then the Association itself is broadcasting daily from headquarters here and the public is learning through that source.

The answers to inquiries are the real work of the Bureau. In addition to that there are the articles that I have mentioned that appear weekly in the Journal, and the occasional article in Hygeia. These articles are written for the public. Although they appear in the Journal of the American Medical Association they are written with the public in mind and not the profession. They are reprinted in pamphlets and are entitled, "Cancer Cures," "Female Weaknesses," "Cosmetics," and so on, so that they may be sold at a nominal price and easily. In addition to selling them practically at cost, there are thousands of these pamphlets given away every year.

One woman writes in and says, "What can you tell me of Lydia Pinkham's Compound?"

We say, "We are sending you a complimentary pamphlet in which you will find Lydia Pinkham's Compound and several other remedies described in detail." The result is that woman gets the pamphlet, sees other pamphlets she may be interested in and that some members of the family are interested in and they order the other pamphlets. In that way the pamphlets are getting distributed. You may be interested in knowing that considerably more than 1,000,000 of these pamphlets have gone out either sold or distributed free.

In addition to the pamphlets, we also have the book, "Nostrums and Quackery," which is now in two volumes and a third volume will be out probably the latter part of this year. The two volumes of "Nostrums and Quackery," contain more material on patent medicine and quacks than are found between any other four covers anywhere. That is as it should be. No other organization has done the work that the American Medical Association has done and has spent the money that the American Medical Association has spent in giving the facts to the public on this subject.

In addition to the pamphlets and the books, we have a number of educational

posters, forty in number, dealing with various phases of the patent medicine evil. These call a spade a spade and are very definite. They are being used in schools and colleges. They are being used in county fairs and state fairs, health exhibits and, as I think most of you know, a complete set of these posters are yours for the asking. Any County Secretary who will write in and say, "We are going to have an exhibit, let us have your posters," will be sent a complete set without the slightest cost to the Council. All we ask is that they be exhibited. Ordinarily these posters are sold at a nominal price.

In addition to the posters, the pamphlets and the books, we have a set of lantern slides and film strips covering the same subjects. The lantern slides are sixty-two in number covering several phases of the nostrum evil. They are for the use of physicians and health officials who wish to illustrate talks with lantern slides. We hope to have some additional material very soon which has been prepared during the past year.

My time is up, but I shall be pleased to give you further details regarding the work of the Bureau when you are shown around the building. The Bureau's office is on this floor and it will probably be one of the first you will come to. At that time I shall be pleased to answer any questions regarding the Bureau's work and show you just how the wheels go around. (Applause).

Dr. Warnshuis: I want to take this opportunity of supplementing what Dr. Cramp has just said, as well as to acquaint the Secretaries with a little piece of work that has been going on in the state of Michigan during the past week. The first thing on my desk last Monday morning was a letter from Dr. Donnelly of Detroit, and which he wrote to every supervisor in every county in Michigan, stating that if the supervisors would send the cancer cases in their county to him in Detroit he would cure them with this new serum injection, and that he would charge rates just as the Mayos do. Those who were unable to pay, he wouldn't charge anything; those who were able to pay something he would charge according to their means.

This piece of solicitation stated that these patients were to be sent to St. Mary's Hospital in Detroit. I was naturally quite surprised at any such action of of that kind and also that the serum, or so-called radium solution, that he would

use was claimed to have cured more than 2,000 cases of cancer.

You can see what would happen with that information going to the supervisors. I got in touch with St. Mary's Hospital and they said Dr. Donnelly was without authority in making the representation, that he was not on their staff and the hospital was not countenancing anything of that nature. We had the record of Dr. Donnelly that in 1924 he was suspended for one year in the Wayne County Society, and in 1925 that suspension was made permanent. Wiring to Chicago Dr. Cramp within twenty-four hours sent me all the material they had already gathered upon this radium emanation outfit, or Radium Foundation Company from Los Angeles, showing how it was a fake preparation, and the men connected with it. Then I got hold of the staff writer of the Booth syndicate of papers, you know the eight leading papers, and yesterday he made a front page exposé of Dr. Donnelly's proposition to herd these cancer cases in Detroit.

When you get back to your county, your supervisor or somebody may say something about it. Remember, it is a quack proposition. He hasn't the authority to offer St. Mary's Hospital in Detroit and the preparation he is using has no therapeutic value whatsoever.

I have made these few supplementary remarks to show how, when we get into a jam, we can go to Dr. Cramp's department and get the low down on every preparation. I am sure the same service will be rendered to the County Secretaries as he renders to the State Secretaries. (Applause)

President Hirschman: The next talk on this list will be on another very important piece of work that has been done by the Association for a good many years, the work of the Council on Pharmacy and Chemistry. Professor W. A. Puckner. (Applause)

Professor W. A. Puckner: Dr. Cramp has reminded you that the Council of Pharmacy and Chemistry was organized for the medical profession with regard to the proprietary medicines which they are asked to use. The Council was organized about twenty-three years. It is composed of seventeen members who, I want to emphasize very strongly, serve, with the exception of the secretary, without pay. They have spent an immense amount of time and work for the Council. A large number of the members spend a very large proportion of their time in investi-

gation problems that come before the Council.

To show the enthusiasm, I may mention that Professor Novy of the University of Michigan not long ago wrote and sent in a report. He said, "Excuse scribbling, but I am flat on my back with sciatica." He had time to send in a report. That is the service the Council has been doing.

From the time the Council was organized it adopted a definite set of rules, principles by which it judges all medicines. It examines them and then publishes, either admitting them to New and Nonofficial remedies, or publishes reports explaining why they are not admitted. At first there was a great deal of antagonism, particularly from the large pharmaceutical houses, as they claimed they had means of judging medicines which were superior to those of the Council. Today I think it is safe to say that any pharmaceutical firm that has a product which they believe can be made acceptable, that product is submitted to the Council for acceptance, and the co-operation which we are getting from the pharmaceutical houses today is most encouraging.

The day of the shot-gun mixture, which was really the cause of the formation of the Council, has gone by. After the Council started to work it found that a large part of the uncritical prescribing of medicines was due to instruction in medical schools, that the teachers there had a very insufficient knowledge of drugs and were inclined to lecture about a large number of drugs and not give much information about any.

The Council then went to work and published a book on "Useful Remedies," in which are described the better drugs which can be made the basis for instruction in medical schools and which today is used as a basis for examination in state board examinations to a very large extent.

The Council also felt that a better knowledge of the Pharmacopoeia was important. It published an Epitome of the Pharmacopoeia, and the National Formulary which gives the information contained in these books with a short résumé estimate of their value. As a result of the Council's work—I say as a result; I think the Council could fairly claim a large part of the credit—the Pharmacopoeia has been thoroughly revised so as to exclude all drugs that are of little value. Since the Council exposed the worthlessness of hypophosphates they have been omitted from the Pharmacopoeia.

So today I think physicians could well limit the prescribing of drugs to those in the Pharmacopoeia, and to those which have been found acceptable by the Council and accepted for New and Nonofficial Remedies.

While pharmaceutical houses no longer stress or give much advertising publicity to proprietary mixtures and worthless concoctions, the price lists still list a large number of them. That probably means that physicians are still prescribing them to some extent, and while there is little propaganda made for them, yet the total prescribing must be considerable.

Physicians often ask, "How can we support the Council on Pharmacy and Chemistry?" I think the answer is very plain. Proprietary products that are worth while are today submitted to the Council and accepted for description in New and Nonofficial Remedies. A proprietary product which has not been accepted I think can well be put aside by the physician until it has been passed on. If he will limit himself to the prescribing of proprietary medicines which have been accepted and beyond that stick to the pharmacopoeia drugs I think he will do full benefit to himself and his patients.

The Council has accumulated a large amount of information, and just as Dr. Cramp sends out a large number of letters answering questions so the Council answers questions. We will be pleased, at any time, to receive inquiries from members of the Association in regard to proprietary products of all kinds, and it is very rarely that we cannot offer you some worth-while information. (Applause)

. . . Recess . . .

President Hirschman: The five minute recess having lasted ten minutes, we will now get back to business. We have all had a lot of fresh air and we are now ready for a little hot air. I now take pleasure in presenting the chief purveyor of hot air of the American Medical Association, Morris Fishbein.

Dr. Morris Fishbein: The publications of the American Medical Association are the voice of the organization, formerly a voice limited entirely to the medical profession, but now a voice going equally and just as strongly to the public.

The American Medical Association has been in the publication business strongly since about 1901, when Dr. George H. Simmons became editor of the Journal of the American Medical Association. It had at that time a circulation of about 8,000

copies. That circulation has grown steadily until today it is almost 100,000 copies, more circulation than all other weekly medical journals in the world combined.

Its influence is proportionate to the extent of its circulation and the belief that the readers have in the opinions it voices. If you will study the make-up of the Journal as it comes to you each week, you will find that it is built according to a certain definite system planned to get a certain result, as all publications must be if they are to fulfill the purposes for which they are created and maintained.

In the first place, you will find a cover listing the main features of the contents. You will find an inside cover which indexes completely every important matter in the issue for the week. You will find a number of advertising pages.

You have had something told to you about the advertising, but not perhaps some of the facts which you ought to know in order to realize what this thing means to the Association. The advertising income is somewhere around three-quarters of a million dollars. At one time advertising in medical journals was limited largely to drug products. Today the chief products advertised to physicians are foods, apparatus, drugs and books. The food products represent, by their growth in relationship to the practice of medicine and to the maintenance of health, a changing point of view relative to the care of the human body and it is a most significant observation the extent to which the relation of food products directly to the medical profession has grown.

Then come the original contributions varying in number from ten to eighteen per week, making a total for the year of from 500 to 600 original articles that are published in the Journal. There are submitted to the Journal each year about 2,400 articles, so obviously, then, about 20 per cent of the articles submitted are accepted and 80 per cent rejected. Of the 20 per cent accepted almost 300 are read each year in the annual session of the Association, so that it is safe to say that there are only 250 out of 2,200 original articles submitted that can be accepted for publication in the Journal. That makes an exceedingly difficult choice for the entire editorial staff of the publication, because every physician who writes an article takes great pride in that little contribution. If he didn't he wouldn't send it in. He feels that he merits the space just as much as any one else and in a few instances he becomes exceedingly resentful

if the product of his alleged brain work and research into the literature is rejected for publication.

The original contributions which come to us vary in quality from the simple case reports, which is probably the very best type of medical writing that any physician can do, to the almost monographic article beginning with the history of the subject, passing through its entire development down from the time of Hippocrates, giving protocols of some 200 animal experiments and the reports of 1,800 cases ending up with a summary sometimes and conclusions and not infrequently accompanied by sixty charts, eighteen illustrations, and two colored pictures.

That contribution is received at least three or four times each week—a contribution of that scope. It is obvious if such an article were to be accepted, at least fifteen physicians would have to have their articles returned to make room for this plan. It is almost an invariable rule of the Journal that every article over six pages in length is not accepted for publication. Charts are eliminated; pictures are selected only when they illustrate, and constitutes a special problem for an editor. The colored picture is very rarely published in the Journal of the American Medical Association because it costs \$1,800 to run one colored picture in the Journal in one issue, and you can see the difficulty of putting that expense upon the Association in order to please some one man's idea of the importance of a colored picture in his paper.

When an original article is received in this office the author immediately receives a card of acknowledgment. The article then goes to the listing department where it is regularly entered on a card and an opinion sheet is placed upon the article. On this opinion sheet appear the author's name, his school of graduation, the date of his birth, his residence, and any other pertinent facts that may be of importance in the consideration of the manuscript. A questionnaire is sent to the personal file, and to the nostrums and quackery department so that if he is entered in the nostrums and quackery department that fact is put on the opinion sheet. If there is anything in his personal record that would obtain in his relation to the passing of the manuscript, that is also entered on the opinion sheet.

It then goes to several of the assistant editors who read the article, abstract it, and put the abstract, the opinion sheet and their opinion as to whether or not it

should be published. The article then comes to the editor who makes the final decision and takes all the blame.

Out of this series of articles we get very few complaints. We get perhaps six men each year who object strenuously to the return of the manuscript, but seldom is the objection sufficient to override the opinions of the editorial group as to whether or not the article should be published.

We get many complaints, I suppose as many as ten complaints every year, directly by mail of the fact that the Journal is too scientific. Last evening one county secretary from Wisconsin stopped me as I was leaving the meeting and said to me that the Journal was much too scientific. That was the chief complaint that he had heard. I suggested to him as an answer to that complaint if he would take the Journal each week and read it carefully, read every article carefully, at the end of two years he would find it was not too scientific and he would be looking around for some of the special periodicals in order to get things on a little higher level. The man who says the Journal is too scientific is the man who begins one article that he cannot understand, and then never proceeds further. You cannot be educated by reading one article. You can't keep abreast of science today by reading the work done in any single field of modern medicine.

After the original articles, we have special departments devoted to the Council on Physical Therapy, and the Council on Pharmacy and Chemistry. The reports of the Council on Physical Therapy are very fundamental, and since this is entirely a new field for most medical practitioners reports ought to be read by every physician very carefully. That list of definitions that is now being published in the field of physical therapy is one of the most important things that has ever been printed because without the language of a new specialty or new field of medicine it is impossible to have any comprehension of the field.

The reports of the Council on Pharmacy and Chemistry keep you abreast of all the new drugs that have been found to be worthy, and in addition to this the preliminary reports that are published on drugs not yet found to be worthy will give you an inkling of what to expect for the future. They will give you suggestions as to medical research and help you out in many other ways.

Then come the editorials. The editor-

ials are planned for two purposes: first, to make plain in simpler language the extremely scientific work that is done in the fundamental sciences, physiology, pharmacology, and so forth, to interpret these in relation to clinical practice, and to inform you as to social, medical and economical movements that affect the medical profession. It is our hope that more and more physicians will read the editorials and act upon the ideas that are there presented with a view to getting united action within the profession. It is only by united action through the organization that the medical organization is able to make its will felt in any way.

Following the editorial and current comments, comes a department known as the Association News. This department gives you regularly the abstract of the reports of the Board of Trustees of the House of Delegates, information concerning the annual session, information concerning the various exhibits and other activities of the Association. If you will take advantage of the things there offered you will get a great deal more use out of the Association. Primarily the greatest difficulty that affects the Association today is the fact that the members do not seem to realize what it is that the Association has to offer them. It is only by being informed of these services that you can avail yourselves of them. Our News Department has grown steadily under a news editor, Dr. Hammond. He has been with us now, I think, a little over six years and that department now records all developments in hospital construction in education, in the activities of County Medical Societies, speakers who are going about the country barn-storming or for other purposes, and County Secretaries who follow the News Department not only of his own state, but of all the states, will find in the records of programs given in other states, neighboring states particularly, great opportunity for picking up material to build up a program for his own County Medical Society. You will find constantly listed the names of speakers and the subjects on which they are speaking, which will enable you to keep abreast with what other County Societies are doing through the News Department.

Our foreign letters now cover practically the entire world with special correspondence in almost every great city in Belgium, in Holland, in Poland, in Austria, Germany, London, France, Australia, Switzerland, Russia, practically every great country in the world. All these

countries now send to the Journal through a special correspondent the news of medical advancement in those countries.

The next department of the Journal is one of the most popular. I understand it is read after the tonics and sedatives, that being the most popular department of the Journal for the physician who wants to keep abreast of modern thought, and that is the obituary notices. The obituary notices are always read immediately after the tonics and sedatives as the second most popular department of the Journal. Every physician apparently wants to find out what is happening to the competition. (Laughter)

Then comes the section of the Journal devoted to the Bureau of Investigation, and we try to vary our frauds. We have all kinds, but we try to vary the matter in discussing diet one day, mechanical apparatus by quacks another day, and very little of late dealing with the old-time patent medicine. There is so little of that in proportion to the advancement of quackery in other fields that there is seldom discussion of the old-time patent medicine. The quack keeps abreast of modern science exactly as does the physician and he takes advantage of every new discovery in medicine to develop a quackery that parallels that.

If you will look at the page of nostrums devoted to influenza which is published in this week's issue that has been distributed to all of you, you will see how closely the quack keeps abreast of activities in the field of medicine.

In the Department of Correspondence every physician is given an opportunity to get off his chest any complaints that he may have concerning the articles that have been published, activities indulged in by the Association, or similar matters.

The Questions and Answers Department has had a tremendous development within the last five years. We have had several letters from doctors who have pointed out the significance of the fact that 90 per cent of the men who ask questions sign the letters, "Please do not print my name." The majority of the questions have to do with desire for assistance in diagnosis or to settle an argument as to a question in diagnosis. All of these questions are referred to authorities for reply. Sometimes one question will be referred to five or six different authorities in order to get a reply that will represent the last word on the subject.

These questions are answered by the Laboratory Department, the Library De-

partment, and in all of our special departments in this office as well as by a staff of at least 100 different people who answer questions regularly who are outside the headquarters office. The questions and answers for publishing are selected by the editor. The Journal, however, takes all the responsibility for the answers since none of the answers are signed.

In the Department of the Council on Medical Education that work is covered regularly. Then come the book notices. After that the Medico-Legal reports which give you the Supreme Court decisions in every case affecting a medical practitioner.

Finally, the Society proceedings which give you the reports of the main scientific societies in abstract form, and then the current medical literature. The current medical literature is prepared by a staff of at least ten abstracters and editors who look through practically all the medical periodicals of the world, over 800 different medical periodicals being looked through each month, and pick out articles which seem to be significant and important for permanent advance in medicine, and abstracts of these articles are printed.

In addition to this, we have arranged through the Journal to supplement the abstract service by lending to any physician from the Library Department any of the periodicals regularly abstracted so that if a physician sends six cents, which merely covers the postage and none of the other incidentals—it practically does not cover the postage any more—he can obtain for reading a special article in any of the foreign or domestic periodicals which has been abstracted. If any physician will send a request to this office that will be loaned to him for a period of three days so that he can look up this particular matter. That is a supplementary service to the current medical literature department, and over 2,000 periodicals were loaned under that service during 1928.

The Journal is supplemented in its activity for the enlightenment of the profession relative to modern medicine by our special periodicals. The first of these to be established was the Archives of Internal Medicine. We now have the American Journal of Diseases of Children, the Archives of Pathology, the Archives of Otolaryngology, the Archives of Surgery, and our newest publication in this field is the Archives of Ophthalmology. The Archives of Ophthalmology is a continuation of the old Archiv für Augen heilkunde printed abroad and in this country, and it will

make its first appearance in the American Medical Association in about five days.

These periodicals are published by the Association at a present loss. Most of the loss of all the other departments, and most of the other activities of the Association is borne, of course, by the present advertising income from the Journal of the American Medical Association. If you will just compare, for instance, what you get when you buy a book for five dollars and what you get when you buy the Journal of American Medical Association for five dollars, you will realize that your five dollars does not cover much more than the cost of the paper and the mailing. The Journal is giving you about 4,000 pages per year for a sum of five dollars.

These special periodicals are aimed to carry on progress in modern medicine through keeping the men who are doing advanced work abreast of the work that is done in research laboratories, in clinics and in hospitals. They have grown in size from some sixty to eighty pages, which was the average size of these publications when they were first begun, to approximately 200 to 250 pages which is the usual size today of an issue of the Archives of Neurology and Psychiatry, or the American Journal of Diseases of Children.

These things have met with a tremendous reception by the American medical profession, and the sad part of it is that not sufficient physicians take advantage of what is practically a gift by the Association. Each one of these periodicals costs almost twice as much as the doctor pays for it.

Hygeia represents our contribution to the education of the public. Hygeia now has a circulation of 85,000 copies per issue. I want you to remember that because that is a tremendous circulation to have built up in this period of time for a publication of that nature. The publication has carried itself, at least within the last five years, so that it does not represent an outlay on the part of the physicians of the country for the education of the public. Hygeia circulates primarily to the public. The number of physicians who subscribe to Hygeia is relatively small, approximately 14,000 of the 85,000. That figure is a pity to contemplate. Certainly, of the 85,000 who subscribe regularly for the Journal, which has a circulation of almost 100,000, at least half should be taking Hygeia for their reception tables. When you go into the average physician's office and see the kind of truck that he does have on the reception table

instead of Hygeia, you wonder why it is he has failed to realize the value of this periodical to him in that way.

I believe that some sustained effort ought to be made among the County Medical Societies, particularly during the coming years, to bring the physicians' subscriptions for Hygeia up to at least that of the school teachers. Our school teachers subscriptions for Hygeia are far beyond the number of physicians that we have for that publication.

Another important publication is the Quarterly Cumulative Index Medicus which represents a combination of the Index Medicus, published in army medical language and begun by John Shaw Billings, and the Quarterly Cumulative Index established by Dr. Simmons in 1916. The Quarterly Cumulative Index as originally established aimed only to index the contents of 300 medical periodicals. The Index Medicus aimed to index only the important articles in all of the medical periodicals of the world. The Index Medicus was a useful work but never completely successful. The Quarterly Cumulative Index was apparently not quite sufficiently complete so that a combination was arranged between these two publications, and in the Quarterly Cumulative Index Medicus are now indexed regularly over 1,400 periodicals. There are about 1,800 medical periodicals published in the entire world. Over 1,400 of these are fully indexed in the Quarterly Cumulative Index Medicus, which means that 250,000 separate items are indexed each year.

There are employed on that work more than twenty people merely for the collection of the material that goes into the book. Obviously it is published at a present loss, a portion of which is borne by the Carnegie Foundation, and the major portion of the loss borne by the American Medical Association, again for the aid of the advancement of modern medicine because it is only by keeping abreast of the knowledge that is available that one can make definite progress in this field of medical science.

Our other publications include the book publications, samples of which you will find on the tables. These book publications are mostly reprints taken from the Journal of the American Medical Association, of material that is believed to be of value particularly in the field of clinical medicine. Also such publications as the Directory, the reports of the various Councils, the numerous pamphlets circulated by the Bureau of Health and Public

Instruction, by the Bureau of Investigation, by Dr. Caldwell's Council on Medical Education and Hospitals, and you also have some definite knowledge of what all of these things are. You are not getting all that the Association can give you as a member of the organization.

The library service is definitely associated with the work of the Publication Department. It prepared the indexes for all of the publications. You will find the library just outside of that door. It prepares the Quarterly Cumulative Index Medicus, and it has two special services which are given to the individual physician, in addition to the lending of periodicals. The first and most important of these is the package library service. This again was inaugurated about five years ago.

The package library service provides for sending to any physician, on payment of twenty-five cents, a complete package of periodicals and of reprints and references on any subject in which he may be interested. He is entitled to keep this package for one week, making his notations and abstracts in order that he may prepare a paper for use before his County Medical Society. Beginning with a few hundred the first year, several thousand are now requested each year by the physicians of this country, and it is extremely interesting to see the requests come for the package library service, and then to receive the paper for publication in one of our periodicals after he has read it before his County Medical Society. So that we are able to trace this little product from conception to delivery. (Laughter)

The package library service is one with which you should all be familiar. Of late we have had to call on the County Medical Society Secretaries for an additional service directly to this office. There are a few physicians pusillanimous enough to send for a package and then fail to return the material, and fail to respond even with a letter to five or six written requests for the return of the package. When you consider that the man is given about fifteen dollars' worth of service for twenty-five cents as his benefit for membership in the organization or subscription to periodicals, you would ordinarily feel that he would be anxious to fulfill all of the rules. About fifteen men a year fail to return the package.

The cost of replacing a package is considerable. In fact, it is sometimes impossible to replace some of the material that is sent out. So that of late we have en-

deavored to get action on packages that are not returned by writing to the County Secretary and asking him to make a personal visit to the man who has failed to return the package and ask him to return the package or explain why. I am very glad to say that in at least ten instances the County Secretaries have co-operated fully and we have gotten back packages that we had given up for lost. In a few instances we have been unable to get a reply from the County Secretary either, and I don't know who one would write to after having lost out with the man to whom the package was sent and the County Secretary. We are planning to make personal visits to these people to find out whether every one in the town is dead.

The other service given by the library is the supplying of references and answers to reference questions in periodical literature. If a man wants to write a paper on any subject and make a complete survey of the literature he can get a beginning list of references by sending to this office his subject. We then look through all the indexes and available periodicals and send him a list of the references. He may then ask for the periodicals concerned in the references, receive these two or three at a time and in that way work up his entire paper regardless of the size of the town in which he may be situated. There are only a few hundred medical libraries in the United States. It is possible in this way for a physician who lives in a small community hundreds of miles from a medical library to work up a paper that will be just as good as one that could be worked up by a man in any of the large cities. (Applause)

President Hirschman: You have just listened to a man who has charge of more leading medical publications than anybody else in the world. I think his talk has been very informing.

One Bureau of the Association which has rendered a service which I believe is just beginning to be appreciated in the last few years is the next speaker. The Bureau of Legal Medicine and Legislation is doing a work which touches the work of every one of us. We will be pleased to listen to Dr. W. C. Woodward, head of the Bureau of Legal Medicine and Legislation. (Applause)

Dr. W. C. Woodward: Mr. Chairman and Gentlemen: The Bureau of Legal Medicine and Legislation is one of the younger branches of the Association's activities, having been organized in 1922.

Its prime purpose is to look after the legislative interests of the profession. Incidentally, it does what it can to assist the profession in some of the medico-legal problems that present themselves to it.

The Bureau of Legal Medicine and Legislation works in the first instance with Congress and with Federal legislation. Congress and Federal legislation are matters that are somewhat outside of the province of the ordinary state or society and for that reason the national organization takes the leadership. We endeavor to follow the proceedings of Congress and of the various departments in Washington through the Congressional Record, and through the United States Daily as well as through general newspaper clippings.

During the session of Congress we keep a man on duty in Washington who can keep in touch with Congressional activity, and, as occasion requires, call for aid there.

We endeavor to aid the states in their legislative problems primarily only on the request of the state organizations. The states themselves must control and direct their own legislative activities. We are called on not infrequently by state societies for aid in framing bills, and for criticism of bills that have been framed and that are under consideration by the state organization.

When the legislatures of the states are in session we keep in touch with their activities through a legislative reporting service, and publish in the Journal each week an abstract of such of the bills before the state legislatures as may be of interest to the medical profession of the state. As we publish those items in the Journal we notify the president and the secretary of the state society, and the chairman of the legislative committee of the nature of the bill that has been introduced.

That is a service that is probably not of much importance to the larger and better organized states that are able to keep their own agents on duty at the state capitals. On the other hand, to the smaller state or to the state with a smaller medical profession, it serves a very useful purpose because it enables not only the officers of the Association in the state but every reader of the Journal in the state to know what is going on in the state legislatures.

At the present time when there are forty-one state legislatures in session in addition to Congress, it is quite a task to follow up legislative activities.

We have an advantage, we believe, over the average state organization with respect to the matter of state legislation because of the possibility of taking a comparative view. We are endeavoring to assemble as much information as we can concerning the medical legislation in the several states in order to be prepared to combat legislation when it needs to be combated, to favor legislation that should be favored, and to draft legislation where that seems to be indicated.

In addition to the activities in the legislative field, so far as the states are concerned, we try to keep in touch with the matters of medical defense in the several states. In that way we collect such information as we can concerning the activities of medical defense committees throughout the states, collate their reports and list them, and publish them annually. We do that so that each state may know how its own work in the line of medical defense compares with the work of other states, that it may know something as to the relative number of demands that are made on physicians of the state for compensation on account of alleged malpractice, and how successful the profession is in combating those demands where they should be combated.

We have endeavored to stimulate, although I believe with very little success, efforts toward the prevention of claims for damages on account of malpractice rather than the adjustment of claims after they have been made. It is easy enough for a physician to take out malpractice insurance and to co-operate with his medical defense committee, but after all every item of expense that arises out of a claim is an item of expense that the entire profession pays, and although it may seem to the individual physician when a claim against him is adjusted or paid by the medical insurance company that it costs him very little, yet when we remember that every insurance company that is engaged in defending physicians against malpractice claims and in paying claims against them charges not only amounts of the claims it pays but charges also a reasonable and possibly a handsome profit, we can see that the medical profession as a whole is really paying more by reason of medical defense insurance than it was by the old-fashioned method.

So far as the individual physician is concerned, our services are more or less incidental. We, of course, cannot undertake to render legal services to individual physicians except as a mere incident, so

to speak, to our general work. The legal profession is just as much opposed to group legal service as the medical profession is to group medical service and, therefore, we cannot represent individual physicians, so to speak. Nevertheless, in the course of a year we get very many inquiries from physicians concerning problems before them, problems involving matters of medical defense where they write to us in addition to writing to their state defense committee in matters in many cases involving questions of expert testimony where they want to know something as to the views of courts concerning certain features of cases that have come up, or want to know something as to the medico-legal aspects of cases.

The work keeps us fairly busy, and we endeavor to do it with as little splurge as possible. In work of this kind it is desirable to have the activities of the profession appear as spontaneous as can be. If we can enlist the active support of the state societies and of the county societies, and of the individual physicians, inducing them to keep in touch with legislation and medico-legal activities, and if we can induce them to take active parts in government affairs to see that proper representatives are elected to Congress and to state legislatures, and to be ready to approach those representatives in a fair way when occasion requires, the purposes of the Bureau will have been fulfilled. (Applause)

President Hirschman: I think you all agree with me that this has been a very illuminating morning, and that you are going to have much to bring back to your county societies as value to them and to the public whom we serve.

The next talk is by a gentleman who has spent a large part of his professional life in instructing people how to be physicians, and he is now spending this portion of his professional life in instructing the public how best to use these physicians. Dr. John M. Dodson. (Applause)

Dr. John M. Dodson: Mr. President and Gentlemen of the Michigan County Societies: The Bureau of Health and Public Instruction was created in 1910 at first as a Council of Health and Public Instruction. After the Bureau of Investigation had been organized to seek information about patent medicines and nostrums of various sorts to be sent out to the public through the physicians as the only medium at that time, it became increasingly evident that the public desired and ought to have information about other matters, medical and of health character. Other

agencies poorly prepared to give this information were doing it through ulterior motives, so the House of Delegates decided that there should be a body whose main function should be to seek the proper and scientific medical and health education of the public. The Council was composed of five members and a full-time secretary. It was made a Bureau in 1923 with an executive secretary subsequently changed to a director.

I might say, by the way, that there were a number of detached committees looking after various interests that had been created by the action of the House of Delegates which were dumped into the hopper of the Council so that the work was more or less varied at the start. These were, for the most part, separated. The Bureau of Legal Medicine had duties that were at first part of the duties of the Council. There was a committee on laws for pilots, for color vision and various things of that sort. So that presently the Council came to be specifically and solely an organization to seek the medical and health education of the public.

In the earlier years, there being no machinery set up in the states or counties for that purpose directly related to the Association, it was sought to do that from headquarters. One of the first activities was the creation of a Speakers' Bureau. Some 250 or 300 physicians in various parts of the country known to be competent and reasonably eloquent offered their services for health talks to the public, and these were listed and a little book was published, one of the editions of which I hold, giving the names of the speakers, their addresses of course, and the subjects upon which they were prepared to speak. Some of these talks were illustrated with lantern slides; others not. This booklet was sent broadcast to women's organizations, Y. M. C. A., and various civic organizations that might be interested in this field.

This Bureau performed a useful service. One of the conspicuous features for a time were the Sunday talks given in the city where the Association held its annual meeting on the Sunday at the beginning of the week in which the meeting was held, the pulpits being occupied in many of the churches by leaders of the medical profession.

The Speakers' Bureau suspended operation during the war, naturally, and after the war it seemed unwise to attempt to create it. There had been found to be difficulties in seeking to control such a

large number of talks from a single headquarters. It was obvious that the state and local societies must become interested in that matter and undertake the burden of the work, and that has subsequently happened, so that the main function of the Bureau here at this time is to assist these local organizations in promoting work of this sort.

We have come latterly to use the radio for this purpose, and that was begun five and one-half years ago. Arrangements were made with KYW, the Westinghouse station here in Chicago, for a monthly talk. The talks were essential readings from *Hygeia*. They served to disseminate useful information to the public and also to advertising the magazine. These talks were given at first monthly, but were later given weekly, and last summer arrangements were made with another station to put a microphone in the building and since that time daily talks have been given at ten o'clock each morning. Something over 200 talks were given last year, for the most part by members of the organization here, but assisted at times, as this morning by your President, to whom we feel greatly obligated for his admirable talk.

It was thought also to stimulate local organizations to do work of this sort, and at one time there were talks being made in at least ten different cities whom we had asked to undertake this work, and we agreed at that time, over four years ago, to supply them with any material. Recently we have elaborated on that somewhat and we are now having mimeographed some of the talks which are given each morning in this form. This, for example, is a talk, "Reasons for Personal Health Examination," which was delivered. We have typed a list of the topics and we now have twenty-six separate talks of that sort which were prepared to send to any physician who desires to use them either for radio talks or for platform talks to any organization. There are some others being printed. We don't attempt to reproduce all of these talks, of course, but only those which seem most worth while.

Another early activity of the Council was to seek the dissemination of useful information through the newspapers and the secretary clipped and sent out large numbers of clippings and special articles each week to a large number of newspapers, at one time between 2,000 and 3,000. How many of these were printed in the Journals it is difficult to say, but

one thing is perfectly obvious to everyone: The interest in health and the demand for health information has grown with exceedingly rapidity until today no newspaper of any importance attempts to get on without publishing health information. Indeed, most of the metropolitan dailies have health editors of their own and a health column, largely syndicated of course, but the demand for this sort of information has grown very much.

In order to make *Hygeia* a more effective, more widely useful medium, it was early decided to print for each issue a clip sheet. I have a copy of it here. In connection with each issue of *Hygeia*, that clip sheet was established containing abstracts of the more important articles in the issue suitable for printing in the daily papers, and we should like to have as many physicians as possible interest themselves in this matter. If we send this to a newspaper editor the chances are very largely that it will go into the wastebasket because he gets such an enormous amount of material of that sort. If, on the contrary, his own physician, or any physician in whom he has confidence, takes in a clip sheet of that sort or hands it to him as he meets him and says, "Here is some good material that I think would be useful to your readers, won't you print it?" a great deal of useful material could receive wide dissemination in that way. We ask you to do that.

Also in the early days, the Council printed pamphlets or reprints for various purposes. A large series, for example, was prepared by the committee on protection of research to check the anti-vivisection enthusiasts. Our use of animals, as you all know, for research purposes is of absolute vital importance to the advance of medicine, and it is threatened constantly every time the legislature meets. We have in the legislature of Illinois at this time a bill that would seriously hamper the scientific man in the use of animals. So a series was prepared of a total up to date of thirty-two pamphlets on this subject: The series on the conservation of vision, another on cancer—since *Hygeia* was established these pamphlets have been largely reprints from it—an article on foreign bodies in the air passages, one on obesity which the physician can give to his patient whom he is seeking to get to eat a little less and grow a little less in weight, one on diphtheria prepared by recognized authorities which can be used to great advantage in a campaign to promote the inoculation against diphtheria.

Here is a reprint from several articles in *Hygeia* entitled, "A Child is to be Born," and is for the use of the mother in the pre-natal stage. A list of these documents is published in the catalog of publications of the Association, and I think copies have been handed to you. If not, you can procure them by simply asking for them.

I believe one of the most important functions of the medical profession at this time is the medical and health education of the public whose mistaken movements we criticize so severely. If they are to be taught not to make mistakes, if they are to be taught the right things to do and educated as to the right attitude toward the medical profession, it must be largely through our efforts. We are prepared with these documents, and of course there are many of them published by other agencies to assist in that movement.

Another function that has been part of the work of the Council is the promotion of periodic health examinations which, as you know, was adapted as a regular procedure or approved as regular procedure by the American Medical Association at its meeting in St. Louis in 1923. It was ordered that a blank be prepared for that purpose and this was printed. About half a million copies of this blank have been distributed to physicians all over the country, and it is being more and more used.

This movement will not grow of itself, however, and I should like to mention briefly in this connection what I believe to be the most effective way of promoting this activity and of educating the profession in regard to it which has yet been developed. In the state of North Carolina the progressive health department of that state has now in its employ a man who gives his whole time to the promotion of this movement. He goes from community to community and keeps in touch with the profession. He gives a demonstration to the doctors themselves of these periodic examinations, how they should be conducted, how the advice should be given, and in that way gets them interested. I think it is one of the most important and promising activities that is now being done.

I regret, however, that it is solely an activity of the health department in that state. That, it seems to me, should not be the case because it conveys the impression that this is a public health service to be rendered without cost to the individual. Of course that is not the case. The original resolution passed by the American Medical Association commending this

activity and urging it upon physicians stated very specifically that it should be done without cost only in the case of the indigent. The fact of the matter is the education of the public is proceeding more rapidly in that matter, and more satisfactorily than the education of the profession in many quarters, and doctors are being waked up to its importance by being called on to give such examinations. It is of vital importance that when they are called on they give an adequate, worth while examination.

A manual showing how to conduct such examinations was printed. I presume most of you have copies. In many cases a state-wide distribution of this manual was secured by action of the State Medical Society.

Just recently we reprinted an article which was written by Dr. Haven Emerson, in a sense the father of this movement, in *Hygeia* in one of the early issues, and this edition of 1,000 which was printed less than two months ago is already exhausted. This is entitled, "What is a Health Examination Anyway," and it discusses in language intelligible to any layman why it is worth while to take an examination of that sort. It is an attractive document and could be used by the physician to great advantage.

Two other activities might be mentioned. Of course one of the functions of the Council, naturally, was the contact with lay organizations, and one of the most important of these was the association with the National Education Association, a body numbering now nearly 200,000 members and having a tremendous influence among the teachers of this country.

Fifteen or sixteen years ago there was formed on the initiative of the A. M. A. a joint movement to promote study and solution of the health problems in connection with the schools, and that committee has since been actively at work. I think a good deal of the amazing progress which has been made, the amazing advance in interest in this matter in the last fifteen years is largely to the credit of that joint committee. You may be interested to know that recently the relationship of that joint committee to the national education itself has been somewhat reorganized on lines that I am sure promise more effective work than has already been done, even.

Another organization that is doing a great piece of work is the National Congress of Parents and Teachers, and one

of their most important activities is the pre-school campaign or the pre-school examination as it is called, the examination of pre-school children to secure the detection and amendment of defects, both physical defects and defects of habit which would hamper their work in the school. There has been some misunderstanding on the part of some of the physicians and on the part of some of the members of these organizations, but I am convinced that here is an opportunity for splendid work, cooperative work- between the physicians and the members of these organizations.

The president of the Congress, Mrs. Reed, who organized this movement, has agreed in seeking the aid of physicians to make the preliminary survey of these children. They will not call on individual physicians, but will call on the county or local medical society, so that there may be a clear and definite understanding of all of the physicians in regard to this matter. I should like to urge upon you, when such request is made for conference in regard to that matter, that you welcome it heartily and enter into conference with these women and with the members of the local Parent-Teachers organization in the right spirit. They don't want to abuse our free service, I am sure. They don't want our help in educating the public to the importance of this examination of the pre-school child, and until the public is educated we can't expect them to come to us asking for service and expecting to pay for it.

These are the main functions of the Bureau, and we should be glad to give you further information as you call, and to send you copies of any of the publications that you think might interest you. (Applause)

President Hirschman: I think we all have a better understanding of the activities of the Bureau of Health and Public Instruction, and appreciate its value more than ever.

One of the younger children of the organization, and a Council which has been extremely useful to us in the last few years, is one which has investigated and is trying to classify in a definite scientific manner the various methods of applying physical therapy. A good many physicians had to get their first instruction in physical therapy from detailed men and glib-tongued demonstrators at commercial exhibits. Now the Association has taken the matter in hand, and in the hands of Mr. Holmquist they are doing a wonder-

ful piece of scientific work which we will now hear about. Mr. Holmquist.

Mr. H. J. Holmquist: Mr. President and Gentlemen: As the Chairman has stated, the Council on Physical Therapy is the youngest department of the Association, its organization having been completed by the middle of the year 1926. The membership of the Council comprises physiologists, physicists, pathologists and clinicians. This provision on the part of the Board of Trustees has proved very wise. A Council composed of specialists, recognized authorities in these fields, is able to consider thoroughly all phases of physical therapy.

The function of the Council, the purpose of the Council is to protect the profession against fraudulent advertising in connection with the sale of medical apparatus, against useless and harmful devices for physical therapy. To promote a sound and conservative use of physical therapy as an adjunct to proper medical and surgical care, the Council supplies unbiased information in the field of physical therapy and biophysics by fostering the investigation of fundamental problems in physical therapy and biophysics, and examines and reports on apparatus used in this field of therapy.

The information is supplied to the profession by correspondence, by special articles, by radio talks, and by speakers before medical and other scientific societies.

The Council has been impressed by the need for more information regarding the effect of radiant energy of various types, and has therefore decided to grant money or apparatus to men investigating fundamental problems.

On the approval of the Board of Trustees, a committee on scientific research was appointed by the Council to distribute a fund appropriated by the Board for this purpose. The Council feels that it is of the utmost importance that in any such investigation physicists, biologists and clinicians should co-operate closely. It is important that the type of energy, the sources used in this investigation be carefully calibrated. It is also important that the effect of such energies on normal tissue as well as on diseased tissue be determined.

There has been much clinical evidence collected. Unfortunately, a great part of it is of an uncritical contradictory nature. Probably the reason for this is that not sufficient attention was paid to the quantity and quality of the electrical or radiant energy used. The findings of the

biologist and the findings of the clinician often are at variance. The reason for this is probably that the biologist and the clinician are dealing with entirely different types of tissue so far as response to radiant energy or electrical energy is concerned.

The Council considers apparatus in a manner similar to the manner in which the Council on Pharmacy and Chemistry considers pharmaceutical preparations. A set of official rules have been adopted for guidance in passing on these devices. In order that a device be acceptable for inclusion in the Council's list of acceptable devices for physical therapy, the manufacturer of that device must furnish the Council with a complete description of the construction and operation of the device. He must also furnish the Council with sufficient evidence of the effectiveness of that device, and his claims made for the device must also be in harmony with the evidence available to the Council.

The Council's activities have been primarily educational. The Council is working in a field that has as yet been inadequately explored from a critical scientific point of view. Before sound progress can be made, many of the rather absurd theories with which physical therapy is now encumbered must be exploded.

To place physical therapy on a sound basis, and to promote sound progress, the Council decided to publish a series of articles on physical therapy in which all that is definitely known concerning the merits and limitations of these devices is given. These articles are written by members of the Council and by other recognized authorities in the field in which these articles deal. Before publication, however, all of these articles must be approved by the members of the Council. Members of the Council act as editors of these articles. The articles will deal with X-rays, rays from radium, ultra-violet rays, infra-red rays, or heat rays, hydrotherapy, mechanotherapy, therapeutic exercise, occupational therapy and in fact the work of the Council stretches over the whole spectrum.

The Council believes that a manufacturer of a medical device must give as much information concerning the emission characteristics and the electrical characteristics of that device as a manufacturer of a pharmaceutical preparation must give concerning the composition of that device. The Council, therefore, requires a complete description of the emission characteristics of all lamps. We must

know not only the intensity of the light, but just where the light is delivered in the spectrum, how much ultra-violet; in other words, the spectral energy distribution curve. Physicians with calibrated sources of that nature will know to what they can attribute the results that they get.

To simplify the reporting on apparatus, the Council is drawing up a set of questionnaires. I rather object to the term questionnaire; rather, a list of questions calling the attention of the manufacturer to the particular information that the Council deems necessary. These questionnaires, or instruction sheets, will be for infra red generators, ultra-violet generators, diathermy machines and various other devices for physical therapy.

As stated before, the Council believes that the emission characteristics should be as definitely known as the composition of an acceptable pharmaceutical preparation is known. The reports on these devices, whether favorable or unfavorable, are published in that section of the Journal devoted to the activities of this Council. In these reports the Council attempts to give such information concerning the construction of the device and the characteristics of the device as will enable a physician to choose intelligently the particular type of apparatus that will meet his requirements.

You are cordially invited to visit the office of this Department, which is on the sixth floor. Any further questions that you may like to ask, I shall be very glad to answer.

Thank you. (Applause)

President Hirschman: I am sure we will all be glad to avail ourselves of that information, because I feel that that is one department of therapy with which we are all at least not very familiar.

Before calling on Dr. West, who will speak on "Your Association," for the benefit of those who came in this morning and didn't have the opportunity of hearing our President-elect last night, I am going to call on Dr. M. L. Harris, President-elect of the American Medical Association, to give us a few words at this time. (Applause)

President-elect Harris (American Medical Association): I was milked dry last night. You can't milk the same cow twice. (Applause)

President Hirschman: We are very grateful to Dr. Harris for the cream which we just received.

The next speaker you know so well it is

perfect folly for me to even present him, but I just want to tell him something that he needn't worry about plenty of time because he is so interesting when he talks. If he needs more time we will omit the eleventh item. Dr. Olin West will talk on "Your Association."

Dr. Olin West: Mr. Chairman, Gentlemen of the Conference: I have been disappointed, or rather I should say that I am regretful that it has been so utterly impossible for those who have spoken to you here this morning, to give you any really comprehensive idea of the work of the American Medical Association. To do that would necessitate an excursion into details that are important and that need to be understood in order that the whole work of the Association may be properly evaluated, for which time was not available.

There are a number of official bodies of the American Medical Association that have not been mentioned here this morning which render service that is absolutely invaluable for the benefit of every decent practitioner of medicine in the United States and, for that matter, in the world.

Such a body is the Judicial Council of the American Medical Association that is charged with the duty of interpreting rules of law and procedure, rules of ethics, and with dealing with the tremendous number of questions affecting these matters that come up for their consideration. That Council is composed of five practitioners of medicine, men who have arrived at that time of life and at that point of distinction that makes them unreachable and that puts them beyond any possibility of having any axe to grind. They have been chosen because they have been believed to be men with judicial minds. Their service to this Association has never been fully appreciated and perhaps never will be.

They come here when they are called and therein, Mr. Chairman, is one of the glories of the American Medical Association, and it secures without money and without price whenever it may be necessary the services of the very best men of the medical profession of this country. Without question, I can telegraph today to 100 of the biggest men in the United States and ask them to come to this building the first possible moment and they will be here with never a question asked, and when they come they will deal with whatever has to be dealt with and will stay as long as may be necessary to do it.

I have seen the Judicial Council meet

here at nine o'clock in the morning and sit right straight through until two-thirty the next morning with thirty minutes for a bite of pie during the day and another thirty minutes for a bite of pie in the evening, dealing with questions of importance to you and every other member of the medical profession of this country and giving their very best thought and attention to these questions without any view or any thought of compensation of any kind whatsoever.

Our Council of Scientific Assembly is charged with the duty of supervising the scientific work of the Association. It meets whenever it is necessary and stays as long as may be necessary.

The secretaries of our sections do a tremendous amount of work for the promotion of scientific medicine without any compensation whatever. Their services are always available when needed.

We have a number of special committees in addition to these standing committees that you have heard something about this morning. For instance, we have a Committee on Scientific Research through which the Association makes available every year approximately \$15,000 for the purposes of scientific research. It turns the money over to the men who are engaged in the study of problems which this Committee believes are worth investigating. There is never any large sum for any particular problem, but always enough to really help these men who are undertaking to solve scientific questions that affect the practice of medicine in a very peculiar way.

We have a Committee on Moving Picture and Visual Education, which has recently been organized, from which we expect some very valuable service, and we have other committees too numerous to mention. We have a Committee on the Protection of Scientific Research that you never hear about, that works constantly and works in a big way for the protection of scientific research, and that job is a very difficult one.

We have other important committees that you rarely hear about and there, Mr. Chairman, I want to take time to say that there is a tremendous amount of work of the American Medical Association that is never advertised, that cannot be advertised for the reason that much of it meets obstruction of one kind and another which can only be worn away by constant effort, and sometimes we have to attack and withdraw and wait for another opportunity to attack.

There is a disposition in evidence to censure some of our state medical societies and the American Medical Association because they do not produce immediate results on this, that or the other matter. It may interest you to know that through our Bureau of Legal Medicine and Legislation a great deal has been accomplished for the benefit of the medical profession, and more particularly for the benefit of the public that has never been mentioned in any official report, has never been advertised in any statement that has ever gone out. It may also interest you to know that that Bureau and others are working on matters that are of particular interest to every physician without the production of any immediate results, and it may interest you also to know that nevertheless they are at work.

That is another one of the glories of this Association, Mr. Chairman, that in so far as I have ever been able to discover there isn't a quitter in the whole bunch. We may be licked; we may make our mistakes, but we don't quit and we are pegging away the best we can on many of these questions in which you are interested, and we hope eventually we will get results. We do know that in some instances we have gotten quite worth-while results with which you are familiar. For instance, after a long and tedious fight with many serious obstacles in the way we have gotten to the place where the Board of Tax Appeals has ruled that you may deduct from your income tax returns the amount of money that you spend in attending scientific meetings and keeping abreast of scientific medicine in that way. The reduction of the Harrison Narcotic Tax was effected with great expenditure of effort and considerable expenditure of money, and it took a long time to do it. There is one thing after another of that kind that we have worked on to good effect. There are a number of others that we are still working on and intend to work on them until our purposes are accomplished.

The topic which I am supposed to discuss here is "Your Association." That topic couldn't be discussed in a great many years. I am not going to pay much attention to it except to say that those of us here in charge of the administrative affairs of the Association never lose sight of the fact that this is your Association. The greatest difficulty we have Mr. Chairman, is to make you appreciate that it is your Association. Every brick in this building is yours, and it would be a matter

of great delight to us if you would come to so consider.

There is never a time that any member of the American Medical Association is not welcome to this building and to any service that can be rendered him in this building. The state medical association in its own state is the American Medical Association. The county medical society in its own county is the American Medical Association, and you in your community and in your individual offices are the American Medical Association. We look at it that way, and we should like every member of the Association to feel the same way about it.

There is one thing that I want to take time to mention to the county secretaries here just at this particular point as it just comes to my mind now. We are making a very strenuous effort to keep the records of the American Medical Association as complete and as near absolute accuracy as is humanly possible. We have some difficulty in doing this at times because some county secretaries appear not to appreciate the importance of accurate records and delay official reports that are of tremendous importance. An occasional man is suspended by a county medical society, for instance. That fact ought to be reported immediately to the state secretary and by him immediately to the American Medical Association. Sometimes a man is expelled. There have been a number of instances where men have been expelled because of disgraceful practice of one kind or another, whose names have been kept on our records as members and fellows of the American Medical Association because we have never had any official report concerning their expulsion. That is a matter of considerable importance and is used simply as an illustration of the value of accurate records and the need for accurate records. Unless our records are kept correct it is easily possible for us to do an injustice to every decent physician in the United States by putting in with him an indecent physician. I won't enlarge upon that any further, but I hope it will impress upon every county secretary here the need for full, complete, accurate and immediate reports in every particular where reports ought to be made.

I had something to say last night about the county medical societies and the interferences with them. Dr. Caldwell had something to say this morning about staff conferences and their great importance. I think they are important, too, but I do

not believe that the county medical society ought to allow itself to be made subservient to staff conferences in anybody's hospital, and I do not believe it is necessary at all that that shall be done. I would appeal to you again to preserve the integrity of your county medical organization in the United States and to combat every influence that would tend to destroy the county medical society as an efficient, going agency.

Dr. Warnshuis has asked me particularly to refer more minutely to some of our records that we have here, especially the biographical records. One of the important publications of the American Medical Association involving a cost of approximately \$150,000 every two years, is the American Medical Directory, containing the name and address and a very considerable amount of data about every physician in the United States and Canada. The eleventh edition of that Directory is now in process of compilation and we hope to have it off the press and ready for distribution the latter part of April. It is an enormous undertaking, but in my mind it is one of the most valuable contributions that the American Medical Association makes to the profession. In years to come, this Directory will be appreciated as constituting a biography of the American medical profession that could not be compiled in any other way.

To publish that Directory it is necessary, of course, to get the most complete data possible about every physician whose name goes into it. You would be surprised if you knew how difficult that is to do. It is not an unusual thing for us to have to tell the man that the information which he has sent in about himself is all wrong. Some of them will persist in having themselves born at the wrong time and we have to tell them about it. Some of them have apparently not discovered up to date that they have ever been born at all and we have to tell them about that. Some of them will send in the wrong names for their institutions of graduation. Some of them do that accidentally. A few of them do it intentionally, but because we have such complete records we are able to discover very promptly these intentional mistakes and have them corrected.

As you go through the building this afternoon, you will find the Biographical Department on the fourth floor containing I don't know how many cards, but there is a card for every individual physician in the United States. Not only that,

but there is a card for every intern in the United States and for every medical student in the United States, and we have information concerning those who are now taking their pre-medical courses. It is our purpose to keep up with every man who starts into the field of medicine from the time he starts until he is gathered to his fathers.

Two or three years ago I was up in Maine attending a meeting of their State Medical Association and talking to a little group of friends. An old gentleman walked up, I was introduced and they told him where I came from and he said, "Oh, yes, I was down there to that place once. I went up there and a fellow reached around in a case and pulled out a card, then he reached in another case and pulled out an envelope. Boys, they knew things down there about me that my own wife doesn't know, and we have been married forty years." (Laughter)

This file and this Directory is of tremendous value for the protection of the integrity of the American medical profession.

Dr. Cramp didn't tell you so this morning, but he has something like 160,000 individual cards about the fakes and frauds and quacks in the medical field. His information could hardly have been secured except through our biographical department and its facilities.

Nothing has been said to you about another publication of the Association which seems to fill a need of a kind and which seems to be very much appreciated if statements that come to us about it can be accepted at their face value, and that is a little monthly publication for nine months in the year known as "The American Medical Association Bulletin." This Bulletin is a very unpretentious little sheet that is intended to give you and every officer of every medical society in this country opportunity to discuss those things of interest to medicine aside from strictly scientific subjects. We should be glad to have you use the bulletin for such purpose.

There are many other activities that I can't take time to tell you about today but one of them I particularly want to mention. There was organized in Washington some two years ago a committee which has come to be known as the Committee on the Cost of Medical Care. Some lay publications have insisted on calling it the Committee on the High Cost of Medical Care. This Committee is an independent organization. It is not a Committee

of the American Medical Association nor of any other official body. It is composed at the present time of forty-three members. Dr. Harris, our President-elect, is one; Dr. George Follansbee, the Chairman of our Judicial Council, is another; the lately retired president of the Pennsylvania Medical Society is another; Dr. Stewart Roberts of Atlanta is another, and altogether there are some fourteen or fifteen physicians on the Committee. The other members represent various fields. There are statisticians, there are economists—that is what they like to call themselves and I suppose properly so—there are business men, there are teachers, and there are social service workers and various groups that are represented.

I suppose it will be all right for me to tell you something of the details of the organization of that Committee because I should like you to understand that the medical group on the Committee intends to do what it can to protect the interests of the medical profession.

I was asked to join the Committee, rather insistently asked, but made no reply until I had had opportunity to take the matter up with the Board of Trustees of the American Medical Association. We had a Committee which we call our Committee on Public Policy that sat with representatives of this Committee to find out what it was all about. I told the Board of Trustees that I wouldn't agree to go on the Committee unless it had a larger representation of physicians and made that fact known to the Chairman of the Committee, who immediately replied, "All right, select the physicians." We selected here five representative men from various sections of the country, all of whom were immediately made members of the Committee.

At its first meeting, at which this group was present, I attacked rather savagely I might say, some of the material that had been distributed by the Committee, which seemed to me to be purely in the nature of propaganda, that made it appear that the Committee as originally constituted had some preconceived notions about the cost of medical care and what ought to be done about it. As a result of that presentation, backed up by some others, it was definitely agreed that if when the final report of this Committee was ready for submission to the public, it was found that there was a minority opinion, that minority opinion should go through exactly the same channels as the majority report. I think that goes far to safeguard

the interests of the medical profession as they may be affected by any activities of the Committee on the cost of medical care.

This Committee is undertaking what appeals to me as being some tremendously valuable work, and that is to get together facts. We have had a lot of loose talk here about medical practice and how wrong it is, and about the tremendous cost of medical service of all kinds, and the impression has gotten out somehow or somehow else that the big item in the cost of medical service is the doctor's fee. While I don't know what the final reports of this Committee are going to show, I am encouraged to believe that it will show among other things that the doctor's fee is not by any means the most important item in the cost of medical service, but that as a matter of fact, when all the possibilities in the situation are considered, it is going to show that the doctor's fee is really less than it ought to be, generally speaking.

Medical service, as the term is used by this particular Committee, does not mean simply your visit to your patient and your service to your individual patient, but embraces all that is embraced in that term, hospital care, dental care, nursing service, or even taking in the cost of operations of all this multitude of social service workers and going into those details in an effort to present facts which can be considered with the hope that whatever conditions need to be corrected can be corrected.

The American Medical Association has undertaken to make one or two of the studies that will be utilized for the purposes of the report of the Committee on the Cost of Medical Care. One of them has to do with capital investment in medicine, and you will find when you get home, if you have not already received it, or you will receive within due time, a blank form which we are anxious that you shall fill out as accurately and as completely as possible, giving us information about what you have been called upon to invest in order that you may come to be a practicing physician, and what you are called upon to invest from day to day in order that you may render the best service of which you are capable to the public.

Those forms are sent to you without any place for any signature of any kind. Your name will not enter into the matter at all. When the form comes back we won't know whether it comes from John Jones or Bill Smith or Jim Brown. We hope through the information we shall be

able to compile with these forms that we shall arrive at some facts as to what it has actually cost a physician to come to the place where he can enter medical practice, and so the cost to him in order that he may maintain himself in decent style and enable himself to render competent service.

Now we have established some checks against the general information that we shall compile in the hope that we will be able to make it dependable. I bespeak, Mr. Chairman, the cooperation of the Michigan State Medical Society and of the secretaries of the County Societies in Michigan in this effort to establish what we consider to be basic facts that must be in hand before any effort is made to remove any inequality or to correct any defects in our present system of medical service.

Another study which we are undertaking has to do with the income of physicians. We hope to get dependable information through statements that will be submitted by physicians themselves. No names will be revealed, no names need to be attached. There has been a tremendous amount of loose talk about this matter. There seem to be those who feel that every physician is independently wealthy, and there seems to be a tendency on the part of others to make every physician a pauper who is absolutely unable to care for his needs and the needs of his family. My own feeling is that the medical profession in the United States is reasonably prosperous, and I think it has been and will be just as prosperous as it deserves to be, and that its prosperity will depend upon the quality of the service that it renders.

We again bespeak your cooperation in securing this information about the income of physicians in order that we may establish as early as possible the facts that must be in hand before somebody, some self-constituted organization or group, goes out and publishes to the world misinformation under the guise of facts.

There are so many things that I might tell you about the work that goes on within these walls every day, and that I wish I could tell you, but of course time does not permit.

I hope all of you will visit every department in the building this afternoon, and I am especially anxious, Mr. Chairman, that all of you shall ask any questions that may occur to you, seek any information that you want to have. There is absolutely nothing to hide in the headquarters

of the American Medical Association. We should like to have you offer any suggestions that you believe may by any possibility be helpful to us because, as I told you last night, the nearly 500 employees that work in this building every day—and they really work—work in the hope and with the desire that what they do shall be done in the interest of medicine, and if there is anything you see that you think we are doing wrong, let us know about it. If there is any criticism you have to make of the operations of the American Medical Association, I can assure you that it will receive careful and sympathetic consideration.

Before I sit down, I want to say just one more thing. I am frequently asked, and asked in a way that indicates that the questioner does not believe the American Medical Association is doing anything for the individual physician, "What are you doing, or what do you have for the practicing physician?" I could answer that question from now until tomorrow morning and not get through answering it, but I should like to call your attention to the fact that everything the American Medical Association does is intended to be for the benefit of the practicing physician, and through him for the benefit of the public.

We are making, for instance, through our publications, a permanent record of the scientific literature of the world, some of it in abstract form, and some of it in more complete form. That alone would justify the existence of the American Medical Association and justify all the money that it spends, and it endeavors to spend every dollar that it can spend to good advantage.

You may be interested in knowing, Mr. Chairman, that the business transacted in this building approximates two million dollars. We try to spend every dollar of that that we can spend with assurance that it will be well spent for the promotion of the art and science of medicine. We have accumulated some surplus and there is some criticism about that, but I think you will understand when I tell you a few simple facts that that surplus is absolutely necessary to the continuance of the work of the organization.

I came here a little over six years ago, and I remember that in our library over there there were three young women. If you go into the library today you will find twenty-five hard-worked young women among its personnel. Our laboratory had one chemist and an assistant. We have

in our laboratory today three chemists, and three very competent chemists. The circulation of the Journal at that time was approximately 80,000. Today it is 90,000. The entire circulation is more nearly 100,000. At that time we had no Hygeia. We had our Quarterly Cumulative Index. The Quarterly Cumulative Index which is in the interest of every physician on earth—I am taking in a lot of territory but I know what I am saying—is today a tremendous publication gotten out at a net loss to the Association of thousands of dollars every year. We believe the expense is justified because we believe it is one of the most splendid contributions that can be made to scientific medicine, and for the further reason that we don't believe anybody but the American Medical Association can render that service.

So I might go on and give you some idea of how the Association has grown and why it is necessary for us to have a good working capital and a reserve. This building in which we stand was doubled in size a little more than three years ago. I remember Dr. Simmons said to me, "Now, West, we are fixed for all time to come," the same thing he had said on each of the four occasions when it was necessary to increase the size of our building, and today we are about to break out of the walls. We have got to look for money for further expansion. No matter what we do, no matter what we undertake in any department here it leads to something else that has to be done that nobody could foresee.

The time is coming, and it isn't at all distant, when we are going to have to have a bigger building and a better building, and in so far as I am personally concerned I hope it will be a building of such nature that whoever looks at it will appreciate it as a monument, as a memorial, to American medicine, and that it will be of the kind that every individual physician in the United States can take great pride in, and in which the work being done and the work that is to be done by the American Medical Association can be carried on and done better than it is being done at the present time.

Mr. Chairman, I am not going to impose on you any more. There are lots of things I would like to say to you that would give you a keener appreciation of the tremendous amount of work that the Association undertakes to do. We don't claim to be perfect; we make mistakes. We make very serious mistakes but we are doing the best we can, and we ask for

your criticism and for your cooperation in making it better.

We are going to serve on this floor in a little while, Mr. Chairman, the best repast that it is possible for us to put up here which will consist of nothing more than cold sandwiches and coffee, and maybe a pickle or two, and a glass of milk perhaps for some of you, and a piece of pie. We hope you will all come out and partake of that pabulum, and that it will hang to your ribs long enough to enable you to make a very careful inspection of this building this afternoon.

You will be asked to go in groups, and we will try to have a conductor for each individual group. We would like for you to see everything from the top of the house to the bottom of the house, and then the other way around. We don't want this to be your last visit to the American Medical Association headquarters. We want you to come whenever you want to come. If there is anything here that you think you can use to advantage, write and let us know about it. Every department in this building has a regular service bureau. I answer hundreds of individual inquiries every year myself, as does every other department head in the building. I want to say in closing, Mr. Chairman, that we feel honored in having the Council and the Secretaries of the Michigan State Medical Society here. We appreciate more than we can tell you your visit, and we hope it will be repeated many times. Thank you. (Applause)

President Hirschman: I can't find words, personally, to express my own appreciation of the visit that I have had here at headquarters. I think those of you who have sat through from start to finish can't help but be touched and impressed by the type of service which is being rendered you and to those members of the County and State Societies that you represent and I represent the consciousness and the fine quality of spirit behind every department head, and the wonderful spirit of cooperation between these heads and their employees.

I should like at this time to entertain a vote of thanks from the Michigan State Society members and its constituent society members to every man and every woman in the employ of the American Medical Association from the general manager down, and through Dr. West, that general manager, to the individuals in order that they may feel a little bit of that spirit of appreciation which I am sure is stirring within every one of us.

Dr. W. C. Ellet (Benton Harbor, Mich.): I make a motion that we thank the American Medical Association staff for the wonderful entertainment they have given us and for the viewpoint that they have given us on the way the organization is run.

... The motion was regularly seconded ...

President Hirschman: I take pleasure in putting such a vote.

... The motion was passed by a rising vote ...

President Hirschman: I take great pleasure in conveying that vote of thanks to you and through you, Mr. Secretary-Manager, to all the members of the organization.

Dr. Warnshuis: Every annual conference we have had has been devoted to our own problems within our own State, but this year this program has been arranged for you and I believe all of those who have listened to it will agree it has been one of the best meetings we have had as an annual conference.

However, before adjournment, is there any Secretary who has anything particularly referring to Michigan that he wants discussed or brought up, or questions asked?

President Hirschman: Is there anything else to be brought up before adjournment? If not, a motion to adjourn is in order. Hearing the motion from all quarters, I will declare the meeting adjourned.

... The meeting adjourned at twelve forty-five o'clock ...

ATTENDANCE AT CONFERENCE OF SECRETARIES OF COMPONENT COUNTY SOCIETIES OF THE MICHIGAN STATE MEDICAL SOCIETY

Chicago, Illinois, January 17, 1929

Dr. Florence Ames, Monroe, Monroe County Medical Society.

Dr. H. M. Best, Lapeer, Lapeer County Medical Society.

Dr. Carleton Dean, Eaton Rapids, Eaton County Medical Society.

Dr. W. C. Ellet, Benton Harbor, Berrien County Medical Society.

Dr. C. R. Elwood, Menominee, Menominee County Medical Society.

Dr. E. J. Evans, Ontonagon, Ontonagon County Medical Society.

Dr. Ralph B. Fast, Kalamazoo, Kalamazoo Academy of Medicine.

Dr. Russell L. Finch, Marquette, Marquette-Alger County Medical Society.

Dr. L. Fernald Foster, Bay City, Bay County Medical Society.

Dr. L. J. Hirschman, Detroit, President, Michigan State Medical Society.

Dr. Harry B. Knapp, Battle Creek, Calhoun County Medical Society.

Dr. Theron S. Langford, Ann Arbor, Washtenaw County Medical Society.

Dr. R. G. B. Marsh, Tecumseh, Lenawee County Medical Society.

Dr. John J. McCann, Ionia, Ionia-Montcalm County Medical Society.

Dr. C. A. Neafie, Pontiac, Oakland County Medical Society.

Dr. W. B. Newton, Alpena, Alpena County Medical Society.

Dr. Philip A. Riley, Jackson, Jackson County Medical Society.

Dr. E. F. Sladek, Traverse City, Grand Traverse-Leelanau County Medical Society.

Dr. George F. Swanson, Newberry, Luce County Medical Society.

Dr. C. E. Toshach, Saginaw, Saginaw County Medical Society.

Dr. Martin Tweedie, Sandusky, Sanilac County Medical Society.

Dr. T. P. Wickliffe, Lake Linden, Houghton County Medical Society.

BLOOD CHEMISTRY DETERMINES DEGREE OF DRUG ACTION

The effect of a dose of medicine depends not merely on the chemical makeup of the medicine itself but on the chemical state of the blood in our bodies when we take it. This is indicated by the experiments of Dr. William Salant, of the University of Georgia Medical School, performed at the Cold Spring Harbor Biological Station on Long Island.

The blood of all warm-blooded animals is normally slightly alkaline. When Dr. Salant injected doses of the drug ergotamin into experimental animals whose blood alkalinity had been artificially reduced, a marked depression in their blood pressure resulted. It was possible to restore the pressure to normal or even to increase it beyond that point, simply by controlling the degree of alkalinity of the blood.

The effects of a drug depend not only on the alkalinity of the blood but also on the particular balance of certain elements. Dr. Salant has found that concentrations of calcium and potassium in the blood are of essential significance in this respect. If the blood is lacking in calcium, adren-

alin, a powerful stimulant and energy-releasing secretion, can not produce results. Even a considerable reduction in the calcium content inhibits the action of adrenalin, unless the potassium present is correspondingly reduced.

If much potassium is present, the poisonous effects of nicotin are greatly increased; and in the presence of an excess of potassium the usually stimulating adrenalin reverses its behavior and becomes a depressant.

The toxicity of mercury is greatly increased by reducing the calcium concentration of the blood. But if the calcium content is increased the resistance to this poison, and also to arsenic, is correspondingly increased. This point may eventually become one of importance in medical practice, because both mercury and arsenic, though poisonous, are widely used in medicine, especially in the treatment of syphilis. The diet of the patient, in so far as it affects the potassium and calcium content of his body fluids, becomes a matter of concern in the light of Dr. Salant's researches. It is recognized that the average American diet is very low in calcium.—Science Service.

MINUTES OF THE MID-WINTER SESSION

Of The

COUNCIL OF THE MICHIGAN STATE MEDICAL SOCIETY

JANUARY 16, 1929

1. Pursuant to the official notice given to the members, the Council of the Michigan State Medical Society met at the headquarters of the American Medical Association in Chicago, Illinois on January 16, 1929.

The session was called to order at 10:00 a. m. with the Chairman, R. C. Stone presiding.

Present: R. C. Stone, C. E. Boys, Geo. L. Le Fevre, T. H. Heavenrich, B. H. Van Leuven, J. D. Bruce, R. Burke, H. Cook, B. F. Green, B. C. Corbus, P. R. Urmston, J. H. Powers, F. C. Warnshuis, L. J. Hirschman.

2. On motion of Heavenrich-Green the minutes of the Executive Committee were approved.

3. The Secretary presented the following as his Annual Report:

To The Council, Michigan State Medical Society.

Gentlemen:

TRANSMISSION

I have the honor to present to you, and through you to our constituent membership this Annual Report of your Secretary for the Society year of 1928, closing December 27, 1928.

FINANCIAL

Appended hereto is our bonded Auditor's report of their examination and audit of the Society's financial condition. In addition I append an itemization of expenditures debited to the several funds and accounts of the Society. Finally there is submitted a tentative budget to govern our finances for 1929.

While our funds may be appraised as representing a safe reserve they are by no means sufficient to insure independence from possible emergencies.

I recommend a transference of a reasonable amount to our Endowment Foundation.

I also further recommend that an Honorarium of \$25.00 per day be appropriated, in addition to their actual expenses, to our members participating in

the programs of our Post Graduate Conferences.

MEMBERSHIPS

Our membership last year was 3,242. At the close of 1928 our membership is 3,457. A gain of 215 members affiliated with the following County Societies:

County	1927	1928	Loss	Gain	Deaths
Alpena	18	16	2		1
Antrim, Charlevoix, Emmet	12	15		3	1
Barry	14	12	2		1
Bay	65	61	4		2
Berrien	39	41		2	
Branch	14	13	1		
Calhoun	107	109		2	
Cass	7	8		1	
Chippewa-Mackinac	16	16			
Clinton	16	18		2	
Delta	22	22			1
Dickinson-Iron	23	15	8		1
Eaton	19	22		3	
Genesee	103	132		29	1
Gogebic	25	23	2		
Grand Traverse	28	24	4		1
Gratiot-Isabella-Clare	30	31		1	2
Hillsdale	22	22			
Houghton	40	42		2	2
Huron	8	9		1	
Ingham	81	92		11	1
Ionia-Montcalm	37	38		1	
Jackson	74	66	8		2
Kalamazoo-Van Buren	113	118		5	1
Kent	208	207	1		5
Lapeer	19	20		1	1
Lenawee	34	34			1
Livingston		14		14	
Luce	9	10		1	
Macomb	33	33			
Manistee	11	10	1		
Marquette-Alger	33	38		5	
Mason	9	11		2	
Mecosta	20	21		1	
Midland	7	7			
Menominee	11	11			
Monroe	28	33		5	
Muskegon	60	60			
Oceana	8	8			
Newaygo	11	10	1		1
Oakland	80	107		27	
O. M. C. O. R. O.	9	8	1		
Ontonagon	5	5			
Ottawa	28	30		2	
Saginaw	67	65	2		
Sanilac	10	12		2	
Schoolcraft	5	6		2	
Shiawassee	30	31		1	1
St. Clair	48	50		2	
St. Joseph	21	17	4		
Tri	17	18		1	1
Tuscola	21	24		3	1
Washtenaw	125	120	5		1
Wayne	1,343	1,472		129	10
Total	3,242	3,457	46	261	39
		3,242		46	
Gain		215		215	

DEATHS

The following deaths are those that have been reported:

Name	County	City
Clarence M. Williams	Alpena	Alpena
Harry E. Shaver	Northern Michigan	Boyne City

M. J. Cross	Barry	Delton
Walter E. Loud	Bay	Essexville
Mary Williams	Bay	Bay City
Charles L. Girard	Delta	Spalding
Michael F. Dockery	Dickinson-Iron	Iron Mountain
Charles W. Goff	Genesee	Montrose
Flemming Carrow	G. Traverse-Leelanau	Traverse City
John N. Day, Jr.	Gratiot-Isabella-Clare	Alma
C. M. Denny	Gratiot-Isabella-Clare	Middleton
Otto M. Kohlhaas	Houghton	Calumet
W. A. Von Zellen	Houghton	L'Anse
W. H. Witter	Ingham	E. Lansing
A. E. Bulson	Jackson	Jackson
R. A. MacGregor	Jackson	Jackson
Russell J. Collier	Kalamazoo	Vicksburg
Eugene Boise	Kent	Grand Rapids
Robert H. De Coux	Kent	Grand Rapids
Uilke De Vries	Kent	Grand Rapids
Alexander G. Graybill	Kent	Caledonia
Frederick J. Larned	Kent	Grand Rapids
G. W. Jones	Lapeer	Imlay City
Herbert R. Conklin	Lenawee	Tecumseh
C. A. Mateer	Newaygo	Fremont
Reynolds C. Mahany	Shiawassee	Owosso
Emmet S. Neihardt	Tri	South Boardman
W. C. Garvin	Tuscola	Millington
John T. Woods	Washtenaw	Chelsea
Clifford J. Dees	Wayne	Detroit
E. L. Emmons	Wayne	Detroit
Wendell T. Garretson	Wayne	Detroit
Harrison D. Jenks	Wayne	Detroit
Frank R. Loomis	Wayne	Detroit
Geo. P. McNaughton	Wayne	Detroit
M. V. Meddaugh	Wayne	Detroit
Angus P. Sutherland	Wayne	Detroit
E. C. Van Syckle	Wayne	Detroit
George M. Waldeck	Wayne	Detroit

Once again do we pause to pay tribute to those who have passed into the impenetrable darkness of the great unknown. When all too frequently these messages reach our desk we invariably wonder as to the "why-for" of their going. Servants all in our corp of administers to mankind. They gave of self in unstinted measure to enhance all life. We revere their memory and enroll their names in our permanent archives.

*"To die is landing on some distant shore
Where billows never break or tempests roar"*

GARTH

THE JOURNAL

I desire to utilize this opportunity to record my appreciation for the excellent manner in which our Editor has discharged his arduous task. It has been an ever pleasing duty to join him in his activities.

I submit the following summarization of business details:

Total Number of Pages	860
Total Advertising Pages	434
Advertising Receipts	\$ 8,474.13
Subscription Receipts	8,458.36
	\$16,932.49
Total Cost of Publication.....	15,103.24
	\$ 1,829.25
Net Journal Profit	
Total Monthly Circulation	3,412

Our Journal now has the largest circulation in its history.

POST-GRADUATE CONFERENCES

During the year twenty-one Post-Graduate Conferences were conducted in Districts and before County Societies. These Conferences have demonstrated their

merit and maintain a prominent place in our Society activity. They call for a tremendous amount of work and correspondence for the perfecting of details. The effort expended is compensated by the appreciation recorded by our members. It is anticipated that the coming year will witness the establishment of definite courses in some of our larger hospitals. Plans are well under way and details are being rapidly solved.

ILLEGAL PRACTITIONERS

During the year we have filed with the Attorney General and the State Constabulary substantiated complaints against violators of our Medical law. Arrests and conviction have been secured.

We impart anew that when County Societies learn of violators of these laws in their county they should call them to the attention of their County Prosecutor. If the County Prosecutor fails to take action and issue a warrant, then report the facts to this office. Upon receipt of such information your State Secretary will secure action through the Attorney General and the State Constabulary. If illegal practitioners exist in any county it is because of lack of action and interest on the part of the County Society.

CRIPPLED CHILDREN BUREAU

During the year contact has been established with the Crippled Children Bureau. Your Secretary arranged for the Conference held with the Council in September. Dr. Corbus appeared at the Bureau's Conference in Lansing and imparted the profession's position. Doctors J. B. Jackson and A. D. La Ferte have been appointed as the Society's ex-officio members on the Commission. Your Secretary has been selected as a member of the Commission's Legislative Commission. It may well be assured that these contacts will eradicate the differences that have existed and conserve the profession's interests.

LEGISLATIVE

Our Legislative program was clearly annunciated in the Council's Annual Report and by the Legislative Commission. The principles adopted are being diligently observed. It is impossible to impart the vast volume of work that devolves upon this office by reason of this legislative activity. Nevertheless it may be stated that our legislative interests are being carefully supervised with meticulous alertness to detail. At the conclusion of the present session of the Legislature a comprehensive report will be submitted.

OFFICE ROUTINE

Our Society contacts have in the last year doubled our office work. Beyond the routine correspondence pertaining to dues, mailing of membership certificates, notices of District Conferences and Committee meetings, we daily send out an average of fifteen letters to members and lay inquirers upon subjects identified with Society work and medical practice. This fact is cited not as a complaint but rather as a comment to indicate that more and more this office is being recognized as a central source for obtaining dependable medical information. We desire to encourage such an attitude and solicit increased utilization of our central office for informative facts and assistance.

ANNUAL MEETING

It devolves upon the Council to designate the time for the holding of our annual session in Jackson.

EXECUTIVE COMMITTEES

The Executive Committee has met each month. The progress of our activities and the problems that arise from week to week are thus carefully considered. The minutes of these meetings are published each month in The Journal.

COMMENT

Our Policy has been to report the progress of our Society activity in The Journal. The Annual Report of the Council to the House of Delegates was all inclusive and comprehensive. It would be repetition to include the subjects that were thus covered in this report. However, certain subjects demand further action and consideration. The attention of the Council is directed to them in this Comment.

1. A most valuable and thorough study of Hospital Administration was made and an exhaustive report was submitted by the Special Committee on Hospital Survey. That report contained certain recommendations. They were approved by the House of Delegates. The value of that report and the labors of the Committee will be lost if some action is not taken to apply the recommendations. Your Secretary requests instructions, therefore, as to how the recommendations may best be brought to the attention of the University Hospital and the Community Hospitals of the State so that institution of the Committees' recommendations may be achieved.

2. Important recommendations were made by the Special Committee on Nursing Service. The report and recommendations

were approved. The question of nurse training, education and service is a vital question of wide and intense public interest. As a Profession and a Society we have an important responsibility reposed in us which we dare not ignore. We cannot shirk our duty to our members or to the public. We become culpable when we permit hospital administrators and the Nursing Profession to institute policies in which we have no voice or guiding direction. Your Secretary, therefore, requests instructions as to how best to record the discharge of that obligation and responsibility.

3. The question of medical service in sparsely populated and rural communities continues to hold the attention and discussion of lay groups. It is an economic problem of considerable concern. Four years ago your Secretary made and reported upon a survey of the state that revealed sources of available medical services to these rural areas. To determine the present condition and to make comparison as to changes brought about over a period of five years, your Secretary requests that he be given authority to institute a second survey during 1929 and report his findings to the Council for submission at our next Annual Meeting.

4. Our Endowment Foundation was created for the purpose of soliciting a principal fund, that is to remain intact in perpetuity and the earnings from which are to be utilized in providing opportunities for post graduate education for our members. At our last annual meeting instructions were given to speedily accomplish the full subscription of this Endowment Foundation Fund. Your Secretary has tentatively formulated such a plan and in consideration certain sources from which funds may be solicited and secured. However, there are certain factors in connection therewith that call for the compilation of facts and tendering to presumptive subscribers supporting arguments and reasons that will convince them of the wisdom of their subscriptions. These facts can be obtained by correspondence but their presentation, in an impressive way to prospective contributors cannot be satisfactorily accomplished in any other way than by personal interviews. Consequently, your Secretary requests authority to arrange for such interviews.

In connection with this request it will not be amiss to direct the Council's attention anew to the importance of this feature of Society work and to point out the

increasing frequency with which influential lay publications comment upon this feature of our economical program and stress the point of medical men keeping abreast of medical progress so that the public may benefit therefrom. When we, as doctors, palpably so fail, then we may confidently expect to witness the institution of state medicine by national, state and county authorities. It is of tremendous importance that we circumvent such an eventuality.

CONCLUSION

In so far as it was possible and the necessary office supervision permitted your Secretary has attended a majority of our District Conferences and Joint Committee Meetings, all of the Executive Committee and Legislative Commission sessions. In addition a goodly number of County Society meetings were attended. The arranging for our Annual Meeting called for several visits to the place of meeting, and conferences with state officials at Lansing consumed much time. During several months I was away from my office by reason of society work for from nine to fourteen days each month. These time consuming engagements are a great tax and make serious inroads in personal affairs. Nevertheless, they have been met and my regret is that it was impossible to accept all the invitations that were received.

In concluding this report I desire to record my full appreciation for the confidence that is reposed in me. I have sought to serve—how well remains for the Council and our members to appraise.

Respectfully submitted,
F. C. WARNSHUIS,
Secretary.

SUMMARY OF EXPENSES

Account	Budget	Total	Over	Balance
Secretary	\$ 5,000.00	\$ 5,000.00		
Annual Meeting	1,000.00	909.83		\$ 90.17
Council Expense	1,000.00	1,117.48	\$ 117.48	
Delegates	500.00	417.65		82.35
Journal	15,750.00	15,103.24		646.76
Legislative Com- mission	2,000.00	265.79		1,734.21
Postage	300.00	425.50	126.50	
Post-Graduate Conference	3,500.00	3,213.94		286.06
Stenographers	2,500.00	2,755.00	255.00	
Office Rental and Phone	1,200.00	1,200.00		
Society Expense	1,050.00	6,229.10	5,179.10	
Hospital History	\$ 500.00			
Contingent Fund	550.00			
	\$1,050.00			
		\$33,800.00	\$36,638.53	\$5,678.08
			33,800.00	2,839.55
			\$ 2,838.53	\$2,838.53

ANNUAL MEETING EXPENSES

June—			
Milo Art Studio.....	\$	8.00	
			\$ 8.00
September—			
A. P. Johnson Co.....		13.77	
International Film Co.....		80.00	
D. C. Beaver.....		15.00	
Milo Art Studio.....		155.75	
Frank Ruslander.....		175.00	
Floor Boys.....		25.00	
Hotel—Book-Cadillac		10.50	
Mileage		15.00	
Cartage—Express—Hotel			
Telegram—Booths—Registration Girls, etc.		168.00	
			\$ 658.02
October—			
Book-Cadillac Hotel.....		87.56	
Book-Cadillac Hotel.....		35.79	
Eastman Teaching Film		45.58	
Evans-Sherratt Co.....		214.52	
Golden & Boter.....		1.00	
H. J. Prentiss.....		82.00	
Geo. F. Suker.....		38.61	
St. Louis Button Co.....		81.57	
A. P. Johnson Co.....		159.99	
C. Hoffman.....		25.48	
			\$ 772.10
November—			
Book-Cadillac		274.20	
McKinney, A. R.....		27.42	
Morris, Robert T.....		58.00	
			\$ 359.62
			\$1,797.74
December—			
Master Reporting Co.....		719.59	
			\$ 719.59
Total			\$2,517.33
Credits:			
From Rental of Booths.....		1,607.50	
Net Expense.....			\$ 909.83

EXPENSES—1928

Month	Editor	Editor's Expense	Office Rental and Phone	Postage and Printing	Reprint Expense	Secretary	Stenographer
January			\$ 100.00	\$ 30.00	\$ 249.07	\$ 416.00	\$ 235.00
February	\$ 208.33		100.00	40.00	46.90	416.00	235.00
March	208.00	\$ 86.27	100.00	50.00	99.14	416.00	275.00
April	208.00	74.00	100.00	100.00	80.95	416.00	235.00
May	208.00	62.00	100.00	30.00		416.00	235.00
June	208.00	62.00	100.00	30.00	178.92	416.00	200.00
July	208.00	84.63	100.00	30.00	133.43	416.00	160.00
August	208.00	62.00	100.00	15.00	417.32	415.00	200.00
September	208.00	65.00	100.00	30.00		400.00	200.00
October	208.00	62.00	100.00		141.17	416.00	200.00
November	208.00	64.40	100.00	46.50	148.03	416.00	240.00
December	211.30	67.00	100.00	25.00	149.93	441.00	340.00
Total	\$2,291.63	\$689.30	\$1,200.00	\$426.50	\$1,644.86	\$5,000.00	\$2,755.00

COUNCIL EXPENSES—1928

January—		
Hotel—Detroit	\$	13.85
R. R. Detroit—Dr. Corbus, Rogers, F. C. Warnshuis		26.10
Dinner		6.75
Waiter		5.00
Taxi		1.25
Return Ticket and Sleeper		9.00
Dinner		4.00
Photograph for Journal		3.00
Incidentals—Tips—Telegrams, etc.		10.00
B. R. Corbus		26.18
Book-Cadillac		32.50
		\$ 137.63
February—		
Burke, R. A.		50.00
VanLeuven, B. H.		30.62
		\$ 80.62
March—		
Corbus, B. R.		47.00
Rogers, J. R.		13.50
Urmston, P. R.		17.75
		\$ 78.25
April—		
Mileage		15.00
Taxi		1.40
Hotel		12.00
Meals		9.00
Incidentals		5.00
Corbus, B. R.		23.00
		\$ 65.40
May—		
Ex-Committee Dinner		6.90
Telegram		1.80
		\$ 8.70
August—		
Northwood Hotel		44.00
Heavenrich, T.		4.50
Charters, J. H.		35.18
		\$ 83.68
September—		
Dinners		6.00
Powers, J. H.		16.00
Corbus, B. R.		47.50
		\$ 69.50
November—		
Paul R. Urmston		23.00
		\$ 23.00
December—		
Otto Ricker		46.28
James D. Bruce		175.00
Burt F. Green		45.00
R. A. Burke		31.22
Henry Cook		19.50
B. R. Corbus		70.05
T. Heavenrich		18.00
R. C. Stone		106.70
P. R. Urmston		19.45
B. H. Van Leuven		39.50
		\$ 570.70
Total		\$1,117.48

DELEGATES EXPENSES—1928

January—		
Carl F. Moll for 1927	\$	59.35
June—		
C. S. Gorsline	\$	98.66
A. W. Hornbogen		75.08
		\$ 173.74
July—		
J. D. Brook		91.94
		\$ 91.94
August—		
Carl F. Moll		92.62
		\$ 92.62
		\$ 417.65

JOURNAL EXPENSES—1928

January—		
Mailing	\$	15.00
Cartage		1.00
Taylor Letter Shop		2.52
Printing—Stock—Cuts		1,057.41
		\$1,075.93
February—		
Mailing		20.00
Taylor Letter Shop		1.52
Printing and Stock		799.50
		\$ 821.02
March—		
Mailing		20.00
Taylor Letter Shop		5.35
Printing, Stock, Cuts and Envelopes ..		924.21
		\$ 949.56
April—		
Mailing		25.00
Taylor Letter Shop		3.65
Printing, Stock, Cuts		854.65
A. P. Johnson Co.—Cuts		69.66
		\$ 952.96
May—		
Mailing		20.00
Taylor Letter Shop		13.85
Printing and Stock		972.21
A. P. Johnson Co.—Cuts		45.94
		\$1,052.00
June—		
Mailing		30.00
Taylor Letter Shop		1.50
Printing, Stock, Cuts		1,226.22
		\$1,257.72
July—		
Mailing		30.00
Printing, Stock, Cuts		847.03
Taylor Letter Shop		8.00
		\$ 885.03
August—		
Mailing		25.00
Taylor Letter Shop		3.25
Printing, Stock, Cuts		779.55
		\$ 807.80
September—		
Mailing		25.00
Taylor Husted		2.07
Printing, Stock, Cuts		854.89
		\$ 881.96
October—		
Mailing		25.00
Taylor Husted		2.56
Printing, Stock, Cuts		1,014.25
		\$1,041.81
November—		
Mailing		35.00
Taylor Husted		3.88
Printing, Stock and Supplements		1,277.57
		\$1,316.45
December—		
Mailing		20.00
Printing, Stock, Cuts		1,141.88
Taylor-Husted		3.08
		\$ 1,164.96
		\$12,207.20
Editor—Expense		689.30
Editor—Salary		2,291.63
		* \$ 3,980.93
Total		\$15,188.13
Credits—		
February Cuts		13.68
April Cuts		23.08
June Cuts		48.13
		\$ 84.89
Net Total		\$15,103.24

LEGISLATIVE COMMISSION—EXPENSE—1928

April—

Olds Hotel—Luncheon Expense.....\$ 13.00
 Mileage 15.00

May—

Legislative Commission—Dinner..... 14.00
 Expense—Lansing 10.00
 J. B. Jackson 7.50
 J. B. Jackson 10.24

June—

A. P. Johnson Co.—Printing 29.06
 John Sundwall 22.25

August—

Guy L. Kiefer 14.55
 John Sundwall 28.83

November—

C. F. McClintic 40.26

December—

James D. Bruce 15.00
 J. B. Jackson 7.50
 John Sundwall 4.50
 F. C. Warnshuis 34.10

Total

\$ 265.79

POST GRADUATE CONFERENCE EXPENSE—1928

January—

Wm. N. Braley \$ 10.86

February—

J. B. Jackson 20.09

March—

Detroit Conference 598.00

May—

Gratiot-Isabella-Clare Meeting Expense 15.00
 Hotel and Meals—Corbus, Campbell,
 Eggleston 9.00
 Mileage and Garage 13.00
 Long Distance Call 1.90
 Eastman Kodak Co. 15.73
 Slemons, C. C. 3.90
 A. P. Johnson Co. 7.74
 Mamera Shop—Films 386.48
 St. Louis Button Co. 37.81
 Book-Cadillac Hotel 252.13
 W. H. Ross 112.20
 Frank N. Ruslander 50.00
 Alumni Association 108.00
 G. Van Amber Brown 46.26

June—

G. Van Amber Brown 33.43
 T. D. Gordon 15.60
 A. P. Johnson Co.—Printing 307.42
 St. Joseph County Conference—Mileage 15.36
 Hotel 8.00
 Meals 7.00
 Louis M. Warfield 34.60

July—

Ann Arbor Meeting 15.00
 Charlotte County Meeting 12.40
 A. P. Johnson Co. 10.25
 Kent County Society 147.05
 13th District Conference—Gaylord, 532
 Miles @ 6 Cents 31.92
 Hotel 10.00

August—

Eastman Kodak Co. 15.43

\$ 15.43

September—

W. H. Barnum 15.00
 B. R. Corbus 25.00

October—

Blodgett Hospital
 Luncheons 48.00
 Hotel Rowe 8.10
 Postage 50.00
 Camera Shop 34.70

November—

R. R. Smith 10.00
 Frank Smithies 31.63
 St. Mary's Hospital 21.00
 Taxi—Dr. Harris, Smithies 1.75
 Hotel, Flint—Harris, Smithies—Lunch
 Breakfast 1.25
 R. R. Tickets—Pollock and Smithies 33.00
 Taxi and Incidentals—Flint 2.00
 Mileage—Flint and Return 21.40
 A. P. Johnson Co. 67.05
 Butterworth Hospital 44.25
 Camera Shop 60.00
 Carl D. Camp 9.58
 Joseph A. Capps 18.25
 B. C. Corbus 25.00
 Eastman Teaching Film 15.72
 E. L. Eggleston 20.71
 J. P. Greenhill 18.47
 A. D. La Ferte 9.36
 Edward G. Martin 7.70
 Harry E. Mock 17.96
 M. A. Mortensen 6.55
 Reuben Peterson 5.00
 L. J. Pollock 13.50

December—

J. M. Whalen 58.00
 W. J. Wilson 6.50
 Henry Cook 52.75
 J. P. Greenhill 32.76
 A. P. Johnson Co. 4.00
 Philip H. Kreuscher 22.60
 A. D. La Ferte 11.98
 Millard Smith 12.60
 Grover C. Penberthy 13.00

Total

\$ 214.19

SOCIETY EXPENSE—1928

January—

Copyright \$ 1.00
 C. Hoffman—Christmas 25.00
 Miscellaneous Expense 1.00
 Barlow Bros.—Binding 18.00
 H. W. TenBroek & Son—Insurance 55.00
 Tisch-Hine Co. 6.50
 Western Union 3.98
 A. P. Johnson Co. 100.30

February—

Long Distance Calls 2.77
 C. B. Burr 138.92
 Central Press Clipping Service 6.00
 Remington Rand Service 2.80
 A. P. Johnson Co. 49.39
 John P. Rogers—Honorarium 100.00

March—

Copyright 1.00
 Long Distance Calls 1.30
 Central Press Clipping Service 3.00
 Remington Rand Service 65.00
 Golden & Boter 1.52
 Tisch Hine Co. 4.75
 A. P. Johnson Co. 96.40
 Mrs. C. B. Crane 13.75
 Western Union 1.56

April—

Copyright 1.00
 Long Distance Calls 4.35
 Central Press Clipping Service 3.00
 Science Service 24.00
 Tisch-Hine 2.65
 Taylor's 94.25
 Western Union 2.58
 A. P. Johnson Co. 18.80

\$ 150.63

May—	
Copyright	1.00
Long Distance Calls	12.35
Central Press Clipping Service.....	3.00
Ernst & Ernst—Auditing.....	147.50
A. P. Johnson Co.....	124.71
Western Union.....	3.90
S. C. Moore.....	25.20
J. M. Whalen.....	20.20
T. S. Langford.....	2.75
J. T. Redwine.....	25.12
Philip Riley.....	6.00
M. S. Chambers.....	4.25
W. F. Reed.....	20.28
C. J. Addison.....	12.26
Ray Dean.....	7.00
T. P. Wickliffe.....	61.94
H. B. Knapp.....	16.40
L. F. Foster.....	5.70
J. J. McCann.....	14.40
R. B. Fast.....	9.00
Florence Ames.....	1.71

May—		\$ 534.67
R. G. B. Marsh.....	3.60	
W. C. Reineking.....	65.50	
Louis Le Fevre.....	18.86	
W. E. Ward.....	5.68	

June—		\$ 94.64
Central Press Clipping Service.....	3.00	
Master Reporting Co.....	132.31	
Tisch-Hine Co.....	4.10	
Long Distance Calls.....	10.15	
Western Union.....	2.91	
Register of Copyrights.....	1.00	
C. B. Burr.....	159.57	

July—		\$ 313.04
Register of Copyright.....	2.00	
Long Distance Calls.....	4.85	
Central Press Clipping Service.....	2.30	
Western Union.....	2.02	
Wayne County Directory.....	2,763.00	
Women's Auxilliary.....	196.04	

August—		\$2,970.21
Register of Copyright.....	2.00	
W. H. Marshall.....	25.00	
Western Union.....	3.56	
Long Distance Calls.....	5.70	

September—		\$ 36.26
Register of Copyright.....	2.00	
Long Distance Calls.....	7.95	
H. E. Randall.....	150.00	
Tisch-Hine.....	.90	
Western Union.....	4.30	

October—		\$ 165.15
Register of Copyrights.....	2.00	
Long Distance Calls.....	9.45	
Expense Joint Committee on Public Health Education.....	25.00	
Brown Floral Co.....	10.00	
G. R. Trust Co.....	5.00	
A. D. La Ferte.....	20.47	
Taylor's.....	3.25	
Taylor and Husted.....	3.55	
Western Union.....	.95	
A. P. Johnson Co.....	11.71	

November—		\$ 91.38
Register of Copyrights.....	2.00	
Tisch-Hine Co.....	6.58	
A. P. Johnson Co.....	169.46	
Long Distance Calls.....	5.75	
Western Union.....	6.72	
Royal Typewriter Co.....	107.50	

December—		\$ 298.01
Register of Copyrights.....	2.00	
A. P. Johnson Co.....	20.00	
Tisch-Hine Co.....	5.50	
Long Distance Calls.....	2.50	
Western Union.....	2.19	
Taylor's—Ink.....	2.50	
A. P. Johnson Co.....	56.50	
Traverse City and Return.....	40.00	
Mary Sakocius—Christmas.....	10.00	

Caroline Hoffman—Christmas.....	25.00	
Joint Committee.....	1,000.00	
Total		\$1,166.19
Credits		290.02
Net Expense.....		\$6,229.10
Credits—		
May 30—Fee collected, Detroit.....	\$ 90.00	
Detroit College Alumni Association	200.00	
Dec. Adj.		\$ 290.00
Total .....		.02
Total		\$ 290.02

MEDICAL DEFENSE—1928

Cash Account		Debits	Credits
Jan. 1	Balance		\$ 794.99
Jan. 31	Dues		1,430.00
Feb. 29	Douglas-Barbour-Brown	\$ 126.25	
	Douglas-Barbour-Brown, ½ Retainer Fee.....	500.00	
	F. B. Tibbals, ½ Retainer Fee	500.00	
	Expense Items.....	9.50	
Feb. 29	Dues		1,300.00
Mar. 5	Interest on Bonds Purchased.....	13.75	
Mar. 31	Interest on Bonds.....	13.77	
Mar. 31	Douglas-Barbour-Brown	343.40	
Mar. 5	Profit on Sale of Bonds.....		240.00
Mar. 31	Dues		1,244.00
Mar. 31	Interest on Bonds.....		277.50
Mar. 31	Difference on Purchase of Bonds	90.00	
Mar. 31	Bonds Purchased.....	1,930.00	
Apr. 30	Dues		1,297.00
Apr. 30	Interest on Bonds.....		25.00
Apr. 30	Return of Dues.....	8.00	
May 30	Dues		393.00
June 30	F. B. Tibbals, 2nd ½ Retainer Fee	500.00	
June 30	Douglas-Barbour-Brown	900.00	
June 30	Dues		439.00
July 30	Douglas-Barbour-Brown, 2nd ½ Retainer Fee.....	500.00	
July 30	Dues		143.50
July 30	Interest on Bonds.....		62.50
Aug. 30	Douglas-Barbour-Brown	100.00	
Aug. 30	Dues		32.00
Aug. 30	Interest on Bonds.....		122.50
Sept. 30	Dues		77.00
Oct. 30	Dues		219.50
Oct. 30	Interest on Bonds.....		150.00
Oct. 30	Profit on Sale of Bonds.....		24.39
Nov. 30	Return of Dues.....	2.00	
Nov. 30	Dues		42.00
Dec. 26	Return of Dues.....	4.00	
Dec. 26	Dues		167.50
		\$5,540.67	\$ 8,481.38

Cash Balance—Jan. 1, 1929.....	\$ 2,940.71
Bonds on Hand.....	12,841.80
	<hr/>
	\$15,782.51

MICHIGAN STATE MEDICAL SOCIETY
JOINT COMMITTEE—ACCOUNT

Dec. 26, 1928—	
Receipts	
Michigan State Nurses Association.....	\$ 100.00
Michigan Tuberculosis Association.....	300.00
University of Michigan.....	500.00
Michigan State Dental Society.....	500.00
Michigan Hospital Association.....	100.00
Michigan State Medical Society.....	1,000.00
	<u>\$2,500.00</u>

Disbursements	
July—	
Dorothy Corley.....	\$ 33.33
E. H. Corley.....	50.00
H. Riecker.....	25.00
	<hr/>
	\$ 108.33
August—	
Dorothy Corley.....	33.33
E. H. Corley.....	50.00
H. Riecker.....	25.00
	<hr/>
	\$ 108.33

September—

Dorothy Corley.....	33.33
E. H. Corley.....	50.00
H. Riecker.....	25.00
A. Van Horn.....	50.00
H. Riecker.....	50.00

\$ 208.33

October—

H. Riecker.....	75.00
Dorothy Corley.....	33.33
E. H. Corley.....	50.00
A. C. Curtis.....	50.00
J. D. Bruce.....	41.00

\$ 249.33

November—

Dorothy Corley.....	33.33
E. H. Corley.....	50.00
H. Riecker.....	75.00
A. C. Curtis.....	50.00
J. D. Bruce.....	22.10
R. A. Morter.....	13.37

\$ 243.80

December—

Dorothy Corley.....	33.33
E. H. Corley.....	50.00
Herman Rieker.....	75.00
A. C. Curtis.....	50.00
J. D. Bruce—Printing.....	152.70

\$ 361.03

\$1,279.15 \$2,500.00

1,279.15

Balance on Hand—Jan. 1, 1929..... \$1,220.85

MICHIGAN STATE MEDICAL SOCIETY
PROPOSED BUDGET—1929

Society

Estimated Income—3,450 members @ \$10.00.....	\$34,500.00
Interest on Bonds.....	1,200.00

\$35,700.00

Expenditures—

Medical Legal Committee—3,450 @ \$2.00.....	\$ 6,900.00
Journal Subscriptions—3,450 @ \$2.50.....	8,625.00
Rent, Light, Telephone.....	1,200.00
Annual Meeting.....	1,000.00
Post Graduate Conferences.....	3,500.00
Legislative Committee.....	1,500.00
Committee Expenses.....	500.00
Printing and Postage.....	500.00
Council Expense.....	1,000.00
Delegates to American Medical Association.....	1,500.00
Stenographic Service.....	2,750.00
Secretary's Salary.....	
Contingent Fund.....	6,725.00

\$35,700.00

Journal Budget

Income—	
3,450 Subscriptions.....	\$ 8,625.00
Advertising Sales.....	8,000.00

\$16,625.00

Expense—

Printing and Mailing.....	\$13,000.00
Wrappers.....	225.00
Editor's Salary and Stenographer.....	3,250.00
Reserve.....	150.00

\$16,625.00

January 7, 1929.

To the Council of the Michigan State
Medical Society,

Gentlemen:

In accordance with your request, we have audited the books of account and record of the *Michigan State Medical Society* for the period from December 30, 1927 to December 26, 1928 and submit herewith our report.

Our examination consisted of a verification of the assets and liabilities of the Society on December 26, 1928, in addition to which we made a comprehensive test check of the recorded cash transactions, operating accounts, and other records for the period, as commented upon more fully throughout the text of this report. These tests

were, in our opinion, sufficient to indicate the general accuracy of the accounting records.

The assets and liabilities at December 26, 1928 are set forth in condensed form below in comparison with those on December 29, 1927:

ASSETS

	December 26, 1928	December 29, 1927	Increase Decrease*
Cash.....	\$ 852.63	\$ 104.38	\$ 748.25
Accounts Receivable.....	839.65	768.66	70.99
Securities Owned—At Cost.....	40,540.55	33,450.75	7,089.80
Unclipped Bond Coupons.....	225.00	320.00	95.00*
	\$42,457.83	\$34,643.79	\$7,814.04

LIABILITIES

	\$ 1,750.00	\$	\$1,750.00
Notes Payable.....	\$ 1,750.00		
Bank Overdraft.....		28.03	28.03*
Advance Payments.....	814.50	269.82	544.68
Joint Committee.....	1,220.85		1,220.85
Reserve for Legal Defense.....	15,618.71	11,566.99	4,051.72
Net Worth—General.....	23,053.77	22,778.95	274.82
	\$42,457.83	\$34,643.79	\$7,814.04

Cash on deposit on December 26, 1928, was verified by direct correspondence with the depository, the balance so reported being reconciled to the balance carried on the Society's books. We traced the recorded cash receipts for the period under audit to bank deposits as shown by bank statements on hand in the Society's files and thoroughly tested disbursements made therefrom. Our test consisted of examination of cancelled bank checks, invoices and other data on file for three months of the period under audit, and no exceptions were noted.

Accounts Receivable were proved by trial balance of the open accounts on December 26, 1928. We did not correspond with the recorded debtors to further verify the accuracy of the book records, but we analyzed the open balances as to date of charge as shown in the summary below:

Date of Charge	Amount	Per Cent of Total
December, 1928.....	\$ 665.25	65%
November, 1928.....	45.50	4
October, 1928.....	21.50	2
September, 1928.....	23.75	2
August, 1928.....	17.50	2
July, 1928.....	17.50	2
April, May and June, 1928.....	21.25	2
January, February and March, 1928.....	24.25	2
Prior to January 1, 1928.....	203.15	19
Total.....	\$1,039.65	100%

Securities owned are stated at cost and were verified by inspection. A schedule of these securities is included elsewhere in this report.

As far as we could ascertain, full provision has been made for all known liabilities of the Society on December 26, 1928.

The liability to the Joint Committee arises through the handling of the funds of that Committee on the books of the Society as a matter of convenience to the Committee Treasurer, Dr. F. C. Warnshuis.

Office equipment purchased during the period has been charged to expense in accordance with the established policy of the Society.

Attention is directed to the fact that the fidelity bond given by Dr. John R. Rogers, Treasurer, in the amount of \$25,000.00 expired during the period under audit, and had not been renewed on December 26, 1928.

Included in this report is a comparative Statement of Income and Expense for the fiscal periods ended December 26, 1928, and December 29, 1927, as well as a Statement of Receipts and Disbursements of the Medico Legal Defense Fund for the fiscal period ended December 26, 1928. The increase of \$4,051.72 in this Reserve represents

the Net Gain for the period as set forth in an accompanying schedule.

We Hereby Certify that we have audited the books of account and record of the *Michigan State Medical Society*, for the period from December 30, 1927 to December 26, 1928, as herein outlined, and that, in our opinion, based upon the records examined and information obtained by us, the accompanying Statement of Assets and Liabilities sets forth correctly the financial condition of the Society at the date named and the relative operating statement is correct.

Very truly yours,
ENRST & ENRST,
Certified Public Accountants.

(SEAL)

STATEMENT OF ASSETS AND LIABILITIES			
<i>Michigan State Medical Society</i>			
At the close of business December 26, 1928			
ASSETS			
CASH—			
Undeposited Receipts.....	\$	10.00	
On Deposit.....		842.63	
			\$ 852.63
ACCOUNTS RECEIVABLE—			
Members' and Advertisers' Accounts.....	\$	1,039.65	
Less: Allowance for Doubtful.....		200.00	
			\$ 839.65
SECURITIES OWNED—At Cost.....		40,540.55	
UNCLIPPED BOND COUPONS.....		225.00	
			\$42,457.83
LIABILITIES			
NOTES PAYABLE—			
To Banks.....	\$	1,750.00	
ACCOUNTS PAYABLE—			
Members' Prepayments.....	\$	814.50	
Joint Committee.....		1,220.85	
			\$ 2,035.35
RESERVE—			
For Legal Defense.....		15,618.71	
NET WORTH—			
Balance—December 30, 1928.....	\$	22,778.95	
Net Income for the Fiscal Period ended December 26, 1928.....		274.82	
			\$23,053.77
			\$42,457.83

INCOME AND EXPENSE				
<i>Michigan State Medical Society</i>				
INCOME				
	For the Period Ended December 26, 1928	December 29, 1927	Increase Decrease*	
Membership Dues.....	\$18,256.58	\$17,696.50	\$ 560.08	
Advertising.....	8,474.13	8,447.48	26.65	
Journal Subscriptions.....	8,458.36	8,206.42	251.94	
Reprint Sales.....	1,611.50	3,114.50	1,503.00*	
Interest on Investments.....	1,376.39	1,128.10	248.29	
Profit on Sale of Securities	290.00	216.00	74.00	
Reduction in Reserve for Doubtful Accounts.....	100.00		100.00	
	\$38,566.96	\$38,809.00	\$ 242.04*	
EXPENSE				
Secretary's Salary.....	\$ 5,000.00	\$ 4,000.00	\$1,000.00	
Editor's Salary.....	2,291.63		2,291.63	
Stenographers' Salaries.....	2,755.00	2,440.00	315.00	
Journal Expense.....	12,811.61	10,751.41	2,060.20	
Society Expense.....	6,229.10	4,945.50	1,283.60	
Post Graduate Conference.....	3,213.94	2,145.45	1,068.49	
Reprint Expense.....	1,644.86	3,003.60	1,358.74*	
Office Rental and Expense.....	1,200.00	1,200.00		
Council Expense.....	1,117.48	730.67	386.81	
Annual Meeting.....	909.83	603.56	306.27	
Postage and Printing.....	426.50	378.00	48.50	
Delegates to American Med- ical Association.....	417.65	286.20	131.45	
Legislative Commission.....	265.79		265.79	
Interest Paid on Note.....	8.75		8.75	
Provision for Loss on Doubt- ful Accounts.....		300.00	300.00*	
	\$38,292.14	\$30,784.39	\$7,507.75	
Net Income.....	\$ 274.82	\$ 8,024.61	\$7,749.79*	

INCOME AND EXPENSE—MEDICO LEGAL DEFENSE FUND	
<i>Michigan State Medical Society</i>	
For the Period from December 30, 1927 to December 26, 1928, inclusive	
INCOME	
Dues.....	\$6,626.50
Interest on Securities.....	563.57
Profit on Sale of Securities.....	244.80
	\$7,534.87
EXPENSE	
Legal Fees.....	\$3,479.15
Commission Paid on Purchase of Securities.....	4.00
	\$3,483.15
Net Gain.....	\$4,051.72

SUMMARY OF CASH RECEIPTS AND DISBURSEMENTS; MEDICO LEGAL DEFENSE FUND	
<i>Michigan State Medical Society</i>	
For the Period from December 30, 1927 to December 26, 1928, inclusive	
BALANCE—December 30, 1927.....	\$ 794.99
Jan. 31, Dues Received during January.....	\$1,430.00
Feb. 29, Dues Received during February.....	1,300.00
Mar. 5, Interest Received on Bonds.....	277.50
Mar. 5, National Electric Power Company Bonds Sold.....	2,910.00
Mar. 5, Profit on Sale of National Electric Power Company Bonds.....	240.00
Mar. 31, Dues Received during March.....	1,244.00
Apr. 6, Interest Received on Bonds.....	25.00
Apr. 30, Dues Received during April.....	1,297.00
May 31, Dues Received during May.....	393.00
June 30, Dues Received during June.....	439.00
July 13, Interest Received on Bonds.....	62.50
July 31, Dues Received during July.....	143.50
Aug. 31, Interest Received on Bonds.....	122.50
Aug. 31, Dues Received during August.....	32.00
Sept. 30, Dues Received during September.....	77.00
Oct. 31, General Motors Acceptance Corporation Bonds Sold.....	2,935.20
Oct. 31, Profit on sale of General Motors Acceptance Corporation Bonds Sold.....	4.80
Oct. 31, Interest Received on Bonds.....	169.59
Oct. 31, Dues Received during October.....	219.50
Nov. 30, Dues Received during November.....	42.00
Dec. 31, Dues Received during December.....	23.50
Dec. 31, Interest Received on Bonds.....	30.00
	\$13,417.59

DISBURSEMENTS	
Feb. 3, Douglas, Barbour, Brown & Rogers.....	\$ 626.25
Feb. 3, F. B. Tibbals.....	509.50
Mar. 5, National Gas & Electric Company Bonds Purchased.....	3,000.00
Mar. 5, Accrued Interest on above Bonds.....	13.75
Mar. 5, New York Central Railroad Co. Bonds Purchased.....	1,930.00
Mar. 5, Accrued Interest on above Bonds.....	9.77
Mar. 5, Commission Paid on above Bond Purchase.....	4.00
Mar. 31, Douglas, Barbour, Brown & Rogers.....	343.40
Apr. 30, Dues Returned during April.....	8.00

June 8,	F. B. Tibbals.....	500.00		
June 29,	Douglas, Barbour, Brown & Rogers	900.00		
July 10,	Douglas, Barbour, Brown & Rogers	500.00		
Aug. 1,	Douglas, Barbour, Brown & Rogers	100.00		
Oct. 24,	Michigan Fuel & Light Co. Bonds Purchased	2,985.00		
Nov. 30,	Dues Returned dur- ing November.....	2.00		
Dec. 26,	Dues Returned dur- ing period Decem- ber 1, 1926, inclu- sive	4.00	11,435.67	1,981.92
	BALANCE—December 26, 1928.....			\$2,776.91*

(Note *) The cash balance of the Society's regular account and the Medico Legal Defense Fund are carried together. In order to avoid sale of securities, monies belonging to the Defense Fund have been used to pay accounts of of the Society, this to be reimbursed from future receipts. Therefore, the balance on December 26, 1928 represents cash due from the general funds of the Society.

SECURITIES OWNED
Michigan State Medical Society

	In- terest Rate	Matur- ity	Par Value	Cost
General Motors Acceptance Corporation	5%	1931	\$ 2,000.00	\$ 1,956.80
Hudson Valley Coke & Products Company.....	7	1930	2,000.00	2,000.00
Peoples Light & Power Company	5½	1941	2,000.00	1,940.00
Grand Rapids Affiliated Corporation	5	1955	7,000.00	7,000.00
National Gas & Electric Company	5½	1931	3,000.00	3,000.00
New York Central Railroad Company	4	1998	2,000.00	1,930.00
Michigan Fuel & Light Company	6	1950	3,000.00	2,985.00
United Light & Power Company	5½	1959	2,000.00	1,850.00
No. 50 Broadway Building Corporation	6	1946	2,000.00	2,000.00
Pennsylvania Railroad Company	5	1964	3,000.00	3,093.75
National Electric Power Company	5	1978	5,000.00	4,725.00
Community Power Light Company	5	1957	2,000.00	1,940.00
American Telephone & Telegraph Company.....	5	1960	2,000.00	2,120.00
Palmer Building Corporation	6	1935	2,000.00	2,000.00
Herald Square Building Corporation	6	1948	2,000.00	2,000.00
Total			\$41,000.00	\$40,540.55

SECRETARY'S SUPPLEMENTAL REPORT

To the Members of the Council:
Gentlemen:

There are certain features of our Society activity that merit special consideration. They deal not only with present activities but also have a bearing upon the future. To submit them I am tendering this supplemental report .

1. Infraction of Medical Practice Act: Violations of our medical practice laws exist quite generally throughout the state. Within the past week County Societies have reported some nine new instances. During the past year we have caused proceedings to be instituted in some fifteen cases and have secured data or entered in correspondence about twenty more. Our Society is not a police power of the state, yet members and County Societies are apparently deeply interested and desire the

State Society to assume the role and responsibility of causing proceedings to be instituted. The State Board of Registration refrains, for lack of funds, to be concerned.

To investigate complaints, compile information, supply supportative evidence, demands much time, correspondence, labor and follow-up.

If this feature of work is to be assumed then it must be supervised in a most thorough manner and be evidenced in every county.

It is for the Council to determine whether the implied desires of our members be acceded to and this new feature of society effort be undertaken.

2. Medical History: The Council is aware that a very efficient committee is compiling a Medical History of the State. The accompanying letter imparts that copy is about completed for the first volume. The financing of printing the volume, securing subscriptions, and supervising distribution will entail time and system to obviate financial deficit. Certain business details require careful attention.

It is incumbent for the Council to now determine the procedure and policy that will govern the issuance and publication of our history.

3. Legislation: The Legislative Commission is complying with the mandate of the House of Delegates by introducing the two approved bills and exerting influence to attain their enactment. The attached letter is explanatory.

Our Society and our members have other Legislative interests that require supervision. Bills have already been introduced and will be introduced that impinge upon and involve our medical interests and which our members expect the Society to supervise. True, we have a Legislative Committee upon which this responsibility rests. It is composed of busy practitioners. Reliance is being manifested upon your Secretary. Your Secretary ever seeks to serve in so far as he is able, yet your Secretary hesitates to assume the role of "Watch Dog" and accept the responsibility of such a role without definite instruction and authority. The Council will do well to define a policy and program.

These activities are, therefore, respectfully drawn to the attention of the Council.

F. C. WARNSHUIS,
Secretary.

4. The Secretary read the following Annual Report of the Editor:

EDITOR'S REPORT 1928

To the Council of the Michigan State Medical Society:

This is the first year that the editorship and position of business manager have been separated. The Secretary's report has given interesting statistics in regard to The Journal recording, among other things, an increase in the total number of pages, so that volume 27 for the year 1928 contains 860 pages of reading matter and is the largest volume in the history of the Society. It is likewise noted that the total advertising pages number 434 and that there has been a net profit of \$1,829.25. The Secretary also notes that The Journal has now the largest circulation in its history.

It is the policy of The Journal to encourage papers based upon personal observation and study and this includes of course clinical or case reports. It is interesting to note that from prehistoric times when clinical reports were used medicine has made substantial progress, and when clinical reports ceased medical progress was at a standstill. During the past year it has been our good fortune to refer to two epoch makers of medicine, namely William Harvey and John Hunter. Medical journalism was non-existent at the time both of these workers proclaimed their discoveries and it took Harvey more years than it took weeks for Roentgen's discovery of the X-ray to reach the medical world.

An endeavor has been made to affect the make-up of The Journal so as to display contributed articles to better advantage. The first thing to note is the prominent place given to the table of contents. The make-up of The Journal has also been rearranged to begin all contributed articles at the top of the page and to fill in what would otherwise be blank space at the end of the article with live matter consisting of abstracts of articles from various medical journals as well as by selections from the copy furnished by Science Service.

The contributions from the Michigan Board of Health will continue to be a feature of The Journal.

The editorial department deals with two classes of subject, in the first place comment on different topics which might be catalogued under the heading Medical Sociology particularly as it affects the profession of the state; secondly with medical and surgical subjects in a somewhat broad way rather than in technical detail which

is essentially the field of the specialist in various departments.

In assuming the position of editor it has been my aim to carry out the policy of the Michigan State Medical Society as manifested by the council and more immediately by the publication committee, the Chairman of which has been consulted by me very frequently. I wish to say here that I have found Dr. Bruce ever ready to advise in all matters referred to him and our conference in the interest of the Society has been frequent. Our relationships in this regard have been most satisfactory and happy to me as have also all my contacts with Dr. Warnshuis as business manager.

J. H. DEMPSTER.

5. The Secretary read the Annual Report of the Chairman of the Medico-Legal Committee:

TO THE COUNCIL MICHIGAN STATE MEDICAL SOCIETY

The past year has been a fortunate one, but 25 cases being reported, a smaller number than at any time since 1920.

We would like to feel that the spirit of Esprit-de-corps is becoming state-wide in our profession, so that the word of criticism which starts so many suits, is no longer spoken, and that most members have learned to avoid all negligence.

But we are not sufficiently optimistic to believe the millennium that near at hand, and are fearful that the coming year will show the normal number of threats and suits which has averaged slightly more than one per cent since our work began in 1910.

A total of over 500 cases has been reported to this Committee and a final adverse verdict has very seldom occurred in cases handled entirely by us. Our defense is stronger than that of any insurance company because we obtain more completely the support of the local profession and we aid greatly in the defense of cases handled by insurance companies.

No investment pays our member as well as that from the small sum which he annually puts in the Medico Legal Fund.

Respectfully submitted,

F. B. Tibbals,
William J. Stapleton, Jr.

6. The Secretary presented the following communications:

January 15, 1929.

Frederick C. Warnshuis, M. D., Secretary
Michigan State Medical Society,
Palmer House,
Chicago, Illinois.

Dear Friend Fred:

I arrived home safely but am compelled to remain in the house owing to the fact that I still have some temperature and pain around my ear.

I regret very much that it will be necessary for me to be absent from the meeting, this being the first Councilor meeting that I have missed. I was very much interested in the fact that you were going to have this meeting in Chicago and feel very keenly the fact that I am unable to be present. However, I hope you will have a very successful meeting.

In looking over the report for the past year, I am very favorably impressed with the workings of the Michigan State Medical Society. There are many points which I would be very much interested in the discussion of, especially am I interested in the hospital survey, nurses survey, and also the proposition which you make for making a further survey of the physicians in the rural communities. I hope these matters will be thoroughly discussed and plans be adopted whereby we may go forth in our efforts to clear up the same. I only hope for the State Society the best of success for the coming year, and this step which you have taken in co-operating with American Medical, I feel is going to be of greater benefit than we can at this time foresee.

Thanking you for your kindness, and hoping that you remember me to the other members, I remain,

Yours respectfully,
Otto L. Ricker, M. D.

January 9, 1929.

Dr. Louis J. Hirschman, President
State Medical Society,
Detroit, Michigan.

Dear Dr. Hirschman:

This letter is to continue the conversation which Dr. J. W. Toan recently had with you concerning clinics for doctors and proposed legislation.

As you will recall, the Medical Department of the Michigan Tuberculosis Association, last spring, sponsored five Regional Chest Clinics for Doctors in as many county sanatoria of the state. These clinics were attended by two hundred and thirty (230) doctors who were favorably impressed if we can judge from the letters and words of commendation. These clinics were put on in Michigan as a part of the nation-wide Early Diagnosis Campaign.

Now before making plans for repeating such a series of clinics, I am writing you, Dr. Hirschman, that we may be sure of the attitude of the State Medical Society concerning them. If your Society believes that it should, through its Post-Graduate Educational Program, assume this responsibility, we shall then gladly direct our activities along other lines. The Michigan Tuberculosis Association, through its Medical Department, wishes to work in the closest harmony with the State Medical Society at all times.

We shall also be very glad to learn the attitude of the State Medical Society on the proposed legislation for a sanatorium at Ann Arbor. Perhaps your Society would rather favor the comple-

tion of the Howell institution before considering the proposal for Ann Arbor. Then, too, the northern counties of this peninsula are sadly in need of a sanatorium and have not the wealth to build for themselves.

Be assured that the Michigan Tuberculosis Association desires to co-operate and be of any help possible in your educational or legislative programs.

Very truly yours,
E. R. Van der Slice, M. D.,
Medical Adviser.

January 12, 1929.

Dr. F. C. Warnshuis,
Michigan State Medical Society,
G. R. National Bank Building,
Grand Rapids, Michigan.

Dear Dr. Warnshuis:

Being at the close of one year and at the beginning of another in the task of publishing The Journal for the Michigan State Medical Society, we are pleased to say that this work has been both enjoyable and profitable during 1928.

We feel it is both necessary and businesslike in some way settle the question of publishing your valued Journal for 1929, even though we have already made a start on the January issue.

As you well know, the price covering the mechanical operations on The Journal have from time to time been gone into thoroughly enough to know that at least that end of the job is down to a figure which can be considered just to both parties of the contract.

The A. P. Jonson Company would consider it both a favor and a pleasure to be permitted to carry on for 1929. Will you please advise if it is agreeable to you and the Michigan State Medical Society to consider the 1928 contract to be effective during the current year?

Very truly yours,
A. P. JOHNSON COMPANY,
M. J. Tietema,
Business Manager.

January 12, 1929.

Dr. F. C. Warnshuis,
Secretary-Editor,
Michigan State Medical Society,
1508 G. R. National Bank Building,
Grand Rapids, Michigan.

My dear Fred:

In answer to your letter of January 10, I am pleased to give you the following information.

The two bills that the Legislative Commission has been ordered to present to the legislature this year have been received today in final form from the Attorney General. I have in mind asking Senator Engel to introduce the bills in the Senate. I will do so if it meets with the Governor's approval.

With reference to the petitions that have been sent out and the reports received, you can give this information better than I can.

I am sorry to say that Charles Culver is Chairman of the Committee on Health in the House but he has assured Mr. William Farrand, Representative from Detroit, that he does not feel any antagonism particularly to our bills. The Senate committee is favorable. Dr. Upjohn is Chairman, Senator Skinner of Kent County is on the committee, as is Senator Engel.

I have had several letters objecting to the

amendment in the Medical Practice Act which requires a person, before he can become registered by reciprocity, to have lived in the state one year. Doctor Marshall of Flint has written and says that he would have to oppose the bill if we insist on carrying that amendment. Doctor Connor has written a very abusive letter to the Attorney General objecting to the amendment. Dr. C. D. Aaron of Detroit has written an objection to me. I have told these gentlemen that it is mandatory on the Legislative Commission to introduce the bills with an amendment to protect the resort doctors like Dr. Van Leuven against men who come in and take their summer practice away from them.

This morning I had a long conference with Assistant Attorney General Metcalf and we worked out the following proviso for our amendment, which I have since telephoned to Dr. Marshall and which he says will fix the matter up all right.

"Provided, That such applicant may, at the discretion of the board, be permitted to practice in this state from the time of notifying the board of his intention to apply for registration under the provisions hereof, until his application for registration shall have been acted upon by said board. The fee for registration from applicants of this class shall be fifty dollars, and for the endorsement of a certificate to another state, five dollars, *which shall be paid at the time of filing the notice of applicant's intention to apply for registration.*"

If it meets with the approval of the Council, I will be glad to have this amendment written in this way.

I do not know any news to write about the progress of our bills but if there is anything else that you would like information about, please let me know.

Very sincerely yours,
Guy L. Kiefer, M. D.,
Commissioner.

7. The Secretary presented a bill of \$3,000 from the Wayne County Medical Society, the same being statement rendered to the Wayne County Society for publication of the names of its members in the Detroit Telephone Directory, together with a communication from the Auditor of the Wayne County Medical Society.

On motion of Urmston-Corbus, and following an extended discussion, the Secretary was directed to return the bill to the Wayne County Medical Society and to notify them that it was not allowed for payment out of the funds of the State Medical Society.

8. The Secretary presented a communication from the O. M. C. O. R. O. County Society in which the eight members of these six county districts expressed a desire to surrender their charter and to obtain affiliations with other or adjacent County Societies. On motion of Powers-Greene, the communication was referred to the Councilor of that district, Dr. P. R. Urmston.

9. On motion of Cook-Boys, the question of educational instruction in Wayne County be referred to the Finance Committee.

10. On motion of Urmston-Powers, the problem of the increase of mental cases was cited and request made that some study and activity be manifested in this subject by the State Medical Society. This was referred to the Committee on County Societies for investigation and report.

11. At this junction the Council was honored by a visit of President-elect of the American Medical Association, Dr. M. L. Harris, who addressed the Council and welcomed them to the American Medical Association headquarters building.

12. As the Council convened the Secretary and General Manager of the American Medical Association, Dr. Olin West, was presented to the Council and in a very cordial manner Dr. West welcomed the Council to Chicago and to the headquarters of the American Medical Association.

13. At 12:45 p. m. the Council went into recess.

14. The Council re-convened at 2 p. m. with the same members in attendance as were present at the morning session.

15. The Publication Committee submitted the following report, which upon motion of Urmston-Boys, was adopted:

REPORT OF PUBLICATION COMMITTEE

The comment which our enlarged and splendidly edited Journal is receiving should be a matter of much pride to this body.

For many years The Journal of the Michigan State Medical Society has held its own with similar publications and the devotion which has marked our Secretary's services as Secretary-Editor should be long remembered and appreciated by this body. That the Council was well advised in accepting Dr. Warnshuis' suggestion for a division of duties has been amply proven by the greatly increased activities and effectiveness of both Secretary and Editor during the past year.

Your Committee believes it unnecessary to mention the worth while development in general editorial policy which the advent of Dr. Dempster has made possible. It does, however, wish to call attention to and to commend the effort to stimulate interest in educational and cultural lines outside the field of medicine. The introduction of apt quotations and allusions to lay literature should add zest to our reading, lighten the burden of the daily grind, and,

we hope, stimulate many into alluring by-paths of cultural development.

Your Committee is looking forward with much interest to the publication of our Medical History. There has been some discussion of the publication of the first volume in the near future. We think it in order at this time to suggest that the material for the second volume be more nearly completed before the publication of the first be finally decided upon.

A communication from the A. P. Johnson Company, signifying their satisfaction with the present arrangements for the publication of The Journal. In as much as this connection has been eminently satisfactory a continuance of the contract is recommended.

Van Leuven,
Green,
Bruce.

16. The Finance Committee made the following report, which upon motion of LeFevre-Boys, was adopted:

REPORT OF FINANCE COMMITTEE

To the Council:

Your Committee on Finances, after reviewing the Auditor's report and the itemization of expenditures submitted by the Secretary, recommends to the Council as follows:

1. That the report of the Auditor be accepted and approved.

2. That the Annual Report of the Treasurer revealing the reserve funds in his possession, complying as it does with the Auditor's financial statement, be accepted and approved.

3. That the budget submitted for 1929 in the Secretary's report be approved, and that the annual salary of the Secretary for the year 1929 be \$5,000.00.

4. Your Finance Committee recommends that the sum of Two Dollars (\$2.00) per member be allotted from the annual dues to the fund of the Medico Legal Defense Committee.

5. Your Finance Committee recommends that the sum of Ten Thousand Dollars (\$10,000.00) in bonds be transferred from the reserve fund of the Society to the Endowment Foundation.

6. Your Finance Committee recommends that the sum of Five Thousand Dollars (\$5,000.00) in bonds from the reserve fund of the Medico Legal Defense Committee be transferred to the Endowment Foundation.

7. Your Finance Committee recommends that the Secretary be authorized to undertake his outlined activities in securing con-

tributions to the Endowment Foundation; and that the expenses entailed in this feature of activity be charged against the general expense account of the State Society, upon the approval by the Executive Committee of statements rendered for such expenses.

8. Your Finance Committee notes that The Journal revealed a profit of \$1,829.25 during the past year. In connection therewith it draws the attention of the Council and the Members to the fact that against this Journal expense account there have been no charges for the services rendered by the Secretary as Business Manager, nor for postage, telephone, telegraph or office expense that have been expended in publishing The Journal. This having been borne by the general expense account of the Society. This explanation is inserted merely as a matter of record and to circumvent any claim that The Journal is on a revenue producing basis.

The Council recognizes that it owes to Wayne County certain educational program assistance. The Council however, does not feel that such recognition should be disproportionate to similar assistance accorded to other counties.

In lieu of conducting Post-Graduate Conferences in Detroit the Council appropriates the sum of \$1,200 to be paid to the Treasuries of the Wayne County Society and to be expended by Wayne County for such educational purposes as the Council of Wayne County deems most advantageous for its members.

This appropriation must not be considered as a precedent for future appropriations.

LeFevre,
Cook,
Powers.

17. The Committee on County Societies made the following report, which on motion of LeFevre-Urmston was adopted:

COUNTY SOCIETIES

Your Committee feels it unnecessary to go into detail on County Society activities since they are sufficiently considered in the Secretary's report. Attention is called to the gratifying increase in new members—261 in the state as a whole—of which 132 are in the state outside of Wayne and Kent.

Your Committee feels that it is unwise to accept the Secretary's recommendation that an honorarium of \$25.00 be paid to members participating in Post-Graduate Conferences with this exception—that the

Secretary be authorized, with the approval of the Executive Committee, to pay any or all speakers who are sent to the upper peninsula an honorarium of \$50.00 a day, together with his or their expenses.

INFRACTIONS OF MEDICAL PRACTICE ACT

Your Committee feels that the Society must take upon itself the responsibility of giving every reasonable aid to the proper enforcing officers to prevent infractions of the Medical Practice Act. This not only for the protection of the public, but also for the protection of the interests of our members. The Secretary is therefore urged and authorized to give every aid, to take such independent steps, and to work with the County Secretaries to this end.

MEDICAL HISTORY

We recommend that the details of financing and publishing the proposed history be left to the Executive Committee with full authorization to proceed.

LEGISLATION

We recommend the same policy as in the above paragraph.

MICHIGAN TUBERCULOSIS ASSOCIATION

1. To Combine the Clinic activities of Michigan Tuberculosis Association with Post-Graduate Conferences.

We approve of the Regional Chest Clinics to be given in five County Sanatoria and believe this might continue to be carried on by the Tuberculosis Association.

We believe that the other clinics given throughout the state be given with and under the supervision of the Post-Graduate Department of the University of Michigan in conjunction with the Michigan State Medical Society.

2. Proposed legislation for Tuberculosis Sanitarium at Ann Arbor.

We are not in favor of the establishment

of an independent Tuberculosis Sanitarium at Ann Arbor.

We would, however, urge the establishment of a department for tuberculosis as a part of and under the supervision of the University of Michigan hospital. This department, which might be of approximately 100 beds, to be especially for the purpose of research and study and student training.

The committee endorses such laws as now exist, or such future action which may be necessary in the prevention of the propagation of mental deficiencies.

Corbus,
Boys,
Heavenrich.

18. Discussion of the program of the State Commissioner of Health on the subject of "Preventive Medicine" was informally held, and upon motion of Corbus-Powers, Dr. Bruce was requested to write a statement setting forth the obligation of the profession.

19. Upon motion of Corbus-Boys, F. C. Warnshuis was elected Secretary for the ensuing year.

20. Upon motion of Bruce-Van Leuven, J. H. Dempster was elected Editor for the ensuing year.

21. Upon motion of Powers-Heavenrich, J. R. Rogers was elected Treasurer for the ensuing year.

22. Upon motion of LeFevre-Cook, the Secretary was directed to secure an indemnity bond in the amount of \$25,000.00 on the Treasurer.

23. The time for holding the Annual Meeting was, upon motion of Powers-Urmston, referred to the Executive Committee and the President with power to act.

24. The Council adjourned at 4:15 p. m.

F. C. WARNSHUIS,
Secretary.

SEEK TO SIMPLIFY PRODUCTION OF INSULIN

A new and simpler way of making insulin, the great boon to diabetics, may result from studies now being made. Professor John J. Abel, who was the first to make pure crystalline insulin, reported to members of the American Association for the Advancement of Science at the annual meeting, that probably only a part of the complex insulin molecule is responsible for the action of the substance. In that case, it will probably not be necessary to build up the whole complex structure in order to get an active compound.

Professor Abel and Dr. H. Jensen of the Johns Hopkins School of Medicine are now studying the chemical composition and structure of insulin. Lack of insulin results in the disease known as

diabetes. Doctors Banting, Macleod, Collip and Best of the University of Toronto were able to prepare a pancreatic extract which contained insulin and was effective in treating diabetes. Professor Abel and associates later succeeded in synthesizing the crystalline insulin. Insulin is of protein nature.

"The outstanding characteristic of crystalline insulin in comparison with other proteins is its high sulphur content (3.1 to 3.2 per cent) and its instability toward alkali," said Professor Abel. Crystalline insulin has a very powerful action. The average daily dosage of insulin given to a patient suffering from diabetes would correspond to 1 mg., or about one-hundredth of a grain, of crystalline insulin.—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner

LANSING, MICHIGAN

INFLUENZA

In order to get an accurate and clear picture of the influenza incidence in the state, and to provide data for further study in an effort to control the disease, letters were sent to all physicians and health officers calling for reports. To make sure that the situation is entirely clear, the letters are reprinted here:

December 17, 1928.

Dear Doctor:

In the Rules and Regulations of the Michigan Department of Health and in the Health Officers Manual it is designated that "Influenza" is to be a reportable disease, only during epidemics. The incidence of influenza in the state at the present time is such that it is deemed advisable to take epidemic precautions.

The first of these precautions involved, of course, is the accurate and complete report of all cases. This is the first and most fundamental requirement in the control of any contagious disease. Beginning at the receipt of this letter, will you please report to your local health officer, in the usual manner, the occurrence of all cases of influenza, until you are notified from this office that the reporting of cases is no longer necessary.

Thanking you for your co-operation, I remain

Very sincerely yours,

GUY L. KIEFER, M. D.,
Commissioner and Collaborating
Epidemiologist.

December 18, 1928.

To Health Officers of All Cities,
State of Michigan:

Because of the possibilities of a widespread epidemic of influenza in this state, you are requested to inform this office of the number of new cases of influenza occurring in your city each day, by telegraphic night letter, at state expense, giving total case reports for the day.

These daily telegraphic reports of the new cases of influenza should continue until further notice from this office.

These telegraphic reports will be recorded as the official reports from your city of the occurrence of influenza; they need not be confirmed by written reports.

Please see that all death certificates, where death was caused by pneumonia or other respiratory diseases, always state influenza as a factor, if present.

The reports of all other contagious diseases should be made in the usual way.

Very truly yours,

GUY L. KIEFER, M. D.

A RECENT STUDY OF DIPHTHERIA IMMUNIZATION

A recent study was made in Detroit to determine the reasons given by parents for not giving their children the benefits of toxin-antitoxin immunization. For this

purpose a detailed study was made of one hundred cases. The parents of these one hundred cases were visited and asked to state definitely why their children had not been immunized with toxin-antitoxin. A tabulation of the answers given by the parents is found below:

Fifty-one per cent of the cases were caused by the parents' own negligence, in "putting it off."

Twenty per cent of the parents claimed that they had never heard of toxin-antitoxin.

Eight per cent of the parents "did not believe that toxin-antitoxin would be effective in preventing diphtheria."

Three per cent of the parents "thought that toxin-antitoxin could be given after the child had become ill."

Four per cent of the cases were due to the fact that the parents or the child was "afraid of the needle."

Six per cent of the parents said that they did not think the immunization was necessary for their child, "because the child was too young."

All of these parents thought that they did the proper thing by their children in allowing them to remain susceptible to diphtheria. None of these parents expected that their children would contract the disease. All of these children did contract diphtheria which shows the futility of such reasoning.—D. M. G.

BACTERIOPHAGE

The work of preparing, distributing and studying bacteriophage has progressed rapidly during the past few months. The total distribution from the Department laboratories of bacteriophage for December was more than 4,700 c.c. This may be compared with 50 c.c. distributed in December 1927, and 200 c.c. in June 1928. Much of the increase has been caused by increased interest and application in Detroit. Bacteriophage is now being used in the out-patient department of the Receiving Hospital, by many Detroit physicians, and by a considerable number of physicians outside of the metropolitan area. Distribution is free in return for clinical data. Inasmuch as it has been impossible to secure sufficient clinical material in Michigan the department is furnishing bacteriophage for a number of large clinics in several states.

Investigation of typhoid bacteriophage as a substitute for the typhoid vaccine has been going on for some time, and a report of the work was given at the annual meeting of the Society of American bacteriol-

ogists at Richmond, December 28. This report will be published soon.

PRENATAL WORK IN SAGINAW COUNTY

The annual report of prenatal work under the Saginaw County Health Unit contains facts that will be of interest to physicians. We quote from the report:

“Upon entrance into the county, all physicians were interviewed and acquainted with the plan of work and asked for a list of patients on whom they wished to have calls made. About seventy-five (75) physicians were seen in this connection.

“The total number of prenatal patients visited were 319, with 620 calls before delivery and 368 after delivery. On 10 patients, for various reasons, no history was obtained, (patient not co-operating, residing outside of county, or could not speak English). There were 78 mothers on whom postnatal visits only were made, owing to their not having been referred previous to delivery, or the impossibility of making the call before delivery. Of the 309 patients on whom histories were obtained 252 have been delivered at this time.

Other visits are as follows:

No. of visits to physicians	308
nurses	66
hospitals	20
infants	490
preschool children	168

“Age Groups—A study of the age groups of the women shows that 32 were under 20 years of age; 156 between 20 and 30 years of age; 109 between 30 and 40 years, and 12 over 40 years. The youngest age at which patients received instruction is 15 and the oldest 44 years.

“Duration of Pregnancy—The duration of pregnancy at the time of the nurse’s first visit is as follows:

1st month	0
2nd month	3
3rd month	17
4th month	11
5th month	19
6th month	41
7th month	58
8th month	57
9th month	103

“The above table speaks for itself. It is hoped that as the work becomes better known a larger number will be seen early in pregnancy.

There were 76 primapara and 233 multipara.

Of the 256 patients who have been delivered, 100 saw their physician regularly; 76 fairly regularly; 75, not regularly and 5 not at all. Of the 53 undelivered (one of whom has moved away—two were mistaken pregnancies) 31 saw their physicians regularly; 10, fairly regularly; 11 not

regularly and one has not yet seen a physician. Three patients were delivered by midwives.

“Symptoms Reported to Physicians—Symptoms which were reported to physicians by the nurse are as follows:

Persistent vomiting	21
Repeated headaches	42
Dizziness	43
Spots before eyes	41
Puffiness of face and hands	43
Constipation	82
Scanty urine	5
Abdominal pain	94
Vaginal discharge	13
Muscular twitching	37
No abnormal symptoms	93

“Abnormal Conditions Reported by Doctors—Pre-eclamptic toxemia, albuminuria or Bright’s Disease were present in 12 cases. Of these, five (5) patients were delivered of stillbirths (one pair of twins making 6 stillbirths) four (4) were delivered of infants in fair condition and four (4) of normal infants. One patient who had albuminuria also had influenza followed by pneumonia and pleurisy and later empyema. This patient was in the hospital for seven months and was finally discharged. Her baby was in good condition when last seen by nurse. Two patients have tuberculosis and are at present at the tuberculosis hospital. One was found to have positive sputum when she reported at the prenatal clinic in March and was referred to the tuberculosis nurse who arranged for hospitalization. She remained there until August when she was removed to St. Mary’s hospital where she was delivered of a normal infant. The other patient had influenza shortly after delivery and developed tuberculosis, was referred to the tuberculosis nurse who got her into the tuberculosis hospital. Both babies were doing well when last heard from.

“One patient has carcinoma of the cervix (four physicians had a share in looking after her—the first gave prenatal examination) had radium treatment but little hope was held for her recovery. She was delivered last February and is still living, doing her own work, but has not been co-operative about returning to the doctor for radium treatments. The doctor reports she was in last week and is in bad condition.

“Another patient had smallpox during pregnancy (7th month) but was delivered of a normal infant at full term. One patient who has syphilis received treatment but found positive after first course of treatment was delivered of a baby apparently in good condition but found to have a positive Wassermann.

"Delivery—Delivery occurred as follows:

Home	220
Hospital	32
Normal	228
Instrument	22
Operative (Caesarean)	2
Not reported	6
Live births	243 (2 pr. twins)
Stillbirths	12 (1 pr. twins)
Undelivered	50
Moved away or no report	7

"One patient is at present at the hospital having had pleurisy and phlebitis. She was delivered at the hospital, returned to her home on the 11th day and again returned about the third week in a very serious condition. According to last report is doing well.

"Infant Deaths—Infant deaths occurred as follows:

Under one day	4
Under one month	3
Under one year	1

"Of those living only a few hours, one had icterus neonatorum, two were premature, another was a monstrosity delivered prematurely. Causes of death under one month were pyloric obstruction, pneumonia and prematurity. One death occurred at nine (9) months—one of a pair of twins artificially fed—baby was teething. (No doubt gastro-intestinal trouble)

"Infant Feeding—The babies were fed as follows:

Breast fed entirely	188
Bottle fed	10
Comb. breast and bottle	33
No. report (incl. stillbirths or babies who died early or patients moved away)	28
Undelivered	50

PHYSICIAN NEEDED

The village of Mendon is without the service of a physician, since the death of Dr. Charles E. Barniger, which occurred on November 24, 1928. Any physician in the state wishing to locate in Mendon should communicate with Mr. L. E. Woodworth, village clerk.—D. M. G.

DENTAL SURVEY IN LIVINGSTON COUNTY

Through the efforts of the county nurse, Miss Julia D. Clock, and financed by the local Red Cross Chapter, Dr. E. A. Collcott of Howell was secured to assist in making a complete dental survey of the school children of the county. Howell was the only exception, and in this city the local dentists made the survey.

The results of this check-up of mouth conditions showed that 90 per cent of both the city and rural school children had cavities in teeth, 72 per cent had cavities in permanent teeth, 37 per cent needed teeth extracted, and only 26 per cent had any dental fillings.

HEALTH CERTIFICATES FOR CHAUFFEURS

A reminder has been sent to physicians that health certificates issued to chauffeurs in accordance with the provisions of Act 309, Public Acts of 1927, are good for two years. Certificates bearing a 1928 date cover the calendar years 1928 and 1929. They are issued by the Michigan Department of Health in duplicate so that a copy can accompany the application to the Secretary of State for a chauffeur's license. When a chauffeur does not have a health certificate in his possession, a duplicate can be obtained from the Michigan Department of Health.

DIET CARDS

Under date of January 8, the six diet cards prepared by the Michigan Department of Health to supplement instructions given by physicians were sent to all doctors in the state. The cards outline diets for prospective mothers, for nursing mothers, and for children from birth to twelve years of age.

The cards were designed to accompany advice on diets given by the attending physician in each case. They are not sent directly to mothers or to nurses. A supply sufficient for distribution to patients will be sent upon request.

NEWS NOTES

Dr. Ida M. Alexander of the Bureau of Child Hygiene and Public Health Nursing has begun her series of Women's Classes in Allegan county. It has been decided to give these classes in a series of three lectures, instead of six as formerly. In this way a greater number of counties can be served.

Miss Emily Lyon, nurse with the Bureau of Child Hygiene and Public Health Nursing, has completed her prenatal nursing program in Sanilac county, where she was located from September 15th to January 1st, inclusive. Miss Lyon will begin work in Ottawa county, Monday, January 7th. The doctors in the county have already been interviewed, and have expressed their desire to have this service for the education of the mothers. Miss Lyon works only with prospective mothers, and mothers of young infants.

Miss Sylvia Krejci will complete her prenatal nursing program in Ionia county February 1. Miss Krejci has been located in Ionia since the latter part of September. It has not yet been decided where Miss Krejci will go from Ionia.

Miss Harriet Szymczak, nurse with the Bureau of Child Hygiene and Public Health Nursing, will complete her prenatal nursing program in Montcalm County February 1. Future plans for Miss Szymczak have not yet been decided upon.

Final report of the summer program of highway water supply protection carried on by the Bureau of Engineering will be completed in time for presentation at the Eighth Annual Public Health Conference in Lansing on January 9, 10 and 11. Colonel E. D. Rich will discuss all of the measures employed by the Department for the safeguarding of summer visitors.

The Annual Conference of Sewage Disposal Plant Operators will be held in Lansing on January 24 and 25, 1929. Floyd G. Brown, Superintendent of the Sewage Disposal Plant at Marion, Ohio, has been invited to be the principal out-of-state speaker.

County Normal Training Classes in Presque Isle County, Montmorency, Alpena, and Iosco Counties will be visited by staff members of the Department during January and February. This is the regular County Normal Lecture schedule which applies to thirty-seven schools in both upper and lower peninsulas.

The two full-time lecturers from the Bureau of Education visited eleven counties during December—Allegan, Clare, Genesee, Hillsdale, Ingham, Kent, Newaygo, Oakland, Ottawa, St. Joseph and Wayne. With the exception of a week's campaign in the high schools of Flint, and a three days' schedule in Clare county, nearly all of the lecturers were in answer to single requests. Speakers are sent from the Department only upon invitation of local groups. Topics discussed included the various aspects of personal hygiene, child hygiene, and community health.

Syphilis	1,171	1,102	925	1,075
Gonorrhea	575	661	654	762
Chancroid	8	4	4	8
Influenza		18,093		

CONDENSED MONTHLY REPORT
Michigan Department of Health Laboratories

	+	-	+—	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				1703
Diagnosis	44	437		
Release	163	472		
Carrier	40	516		
Virulence Tests	17	14		
Throat Swabs for Hemo- lytic Streptococci				794
Diagnosis	110	128		
Carrier	44	512		
Throat Swabs for Vincents	39	442		481
Syphilis				6681
Kahn	1031	5589	59	
Wassermann				
Darkfield		2		
Examination for Gonococci	125	1025		1151
B. Tuberculosis				447
Sputum	74	332		
Animal Inoculations	5	36		
Feces	4	25		
Typhoid				85
Blood Cultures		23		
Widals	4	27		
Urine		2		
B. Abortus		28		28
Dysentery		25		25
Intestinal Parasites				21
Transudates and Exudates				217
Blood Examinations (not classified)				130
Urine Examinations (not classified)				320
Water and Sewage Exam- inations				353
Milk Examinations				66
Toxicological Examinations				
Autogenous Vaccines				
Supplementary Examinations				163
Unclassified Examinations				743
Total for the Month				13408
Cumulative Total (fiscal years)				87926
Increase over this month last year				809
Houghton Laboratory—				
Examinations made—Total for the Month				1386
Cumulative Total (fiscal year)				8938
Decrease over this month last year				187
Grand Rapids Laboratory—				
Examinations made—Total for the Month				6273
Cumulative Total (fiscal year)				38187
Decrease over this month last year				331
Typhoid Vaccine Distributed, c. c.				11320
Diphtheria Antitoxin Dis- tributed, units				5521
Diphtheria Toxin Antitoxin Distributed, c. c.				33400
Silver Nitrate Ampules Dis- tributed				1804
Scarlet Fever Antitoxin Dis- tributed, units				122
Scarlet Fever Toxin Dick Test Distributed, c. c.				1650
Scarlet Fever Toxin Immuni- zation Distributed, c. c.				1783
Smallpox Vaccine Distributed, points				7015

PREVALENCE OF DISEASE

December Report				
Cases Reported				
	November	December	December	Av. 5
	1928	1928	1927	yrs.
Pneumonia	476	1,007	469	509
Tuberculosis	527	415	426	425
Typhoid Fever	39	18	49	60
Diphtheria	396	420	460	587
Whooping Cough	1,182	914	444	460
Scarlet Fever	977	1,083	1,020	1,041
Measles	133	311	1,212	1,085
Smallpox	70	105	144	156
Meningitis	27	35	12	11
Poliomyelitis	8	3	16	8

THE JOURNAL

OF THE

Michigan State Medical Society

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FEBRUARY, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

IMMUNIZATION AGAINST DIPHTHERIA

The matter of immunizing for diphtheria remains to a large extent with the medical profession of the state. Are we as physicians doing our duty to the best of our ability in this regard? It is rather distasteful to the members of the medical profession to invite patients to their office and then to make a charge. Immunization is something towards which, in the absence of an epidemic, parents are apt to manifest more or less indifference. In Detroit, since the matter of immunizing against diphtheria has been undertaken by the medical profession, 2,600 complete immunizations have been reported. When it is understood that a large number of these are children in institutions the number of voluntary immunizations does not look so great. It seems therefore if diphtheria is to be eliminated entirely, the medical profession will

have to be aggressive in urging toxin-anti-toxin wherever it is indicated. At least an endeavor should be made to immunize infants between the ages of six to eighteen months.

As this is written the influenza epidemic shows evidence of abatement. If this change for the better is permanent let us again concern ourselves with the matter of preventive medicine so far as it concerns the elimination of diphtheria.

STATE HOSPITAL DEFICIENCY

The lay press has pretty generally announced the plan of Governor Green for raising revenue to provide increased accommodation for wards of the various state institutions. The governor is to be commended for his farsightedness in sensing a situation that may not have been any too apparent to many members of the medical profession of the state. The condition that has existed for some time is deplorable.

The tenor of the press has been one of disfavor to raising the amount by taxation of incomes. Of course this method of taxation has been twice voted down by the people of Michigan. Yet the state hospital situation remains unrelieved, and must be eventually met. Doubtless an extra impost on existing taxation property would be the better way to go about procuring the required funds for the extension of hospital facilities.

SECRETARY'S ANNUAL REPORT 1928

Attention is called to the annual report of the Secretary of the Michigan State Society for the past year. It is comprehensive and very carefully compiled. It will be noted that there has been an increase in the membership of the State Medical Society from 3,242 to 3,457 during the year. A little more than half of the increase was from Wayne County. Thirty-nine members have died during the year.

The report gives interesting statistics in regard to this Journal. Among other things it is interesting to note a net profit of \$1,829.25 after defraying the entire cost of the publication.

The post-graduate conference is as much in demand as ever, twenty-one conferences having been conducted during the past year in various districts and before county societies.

Among other important features discussed in the report are the crusade against illegal practitioners, co-operation

of the State Medical Society with the crippled children bureau, and the legislative program. In addition is an itemized account of receipts and disbursements as well as a statement of the financial condition of the Society.

GENERAL MEDICINE*

Dr. M. L. Harris, president-elect of the American Medical Association, analyses the situation that today confronts a great many physicians in general medicine. Among the various factors enumerated are, health examinations of school children which weaned many mothers away from the family physician; health officers and boards of health overstepping their legitimate field; the Infant Society, where the generosity of the physician was abused by the well-to-do mothers. The workingmen's compensation laws which would seem to insure physicians getting their fees has had the opposite effect giving rise as they do to insurance companies which take all or most of the industrial accidents out of the care of the unattached physician.

The periodic health examination on the part of some life insurance companies with the purpose of increasing longevity of their policy holders has tended to diminish the routine work of the general practitioner. He refers to a disposition on the part of many misguided physicians throughout the country to sell their services for the purpose of making examinations for commercial institutions organized for profit, whereby the physician lends himself to exploitation. Then there is an over-production of specialists and a disposition on the part of the laity to seek the specialist for ailments which the general practitioner is able to handle quite satisfactorily. The tendency towards early specialization in medicine and surgery is attributed to the trend of medical teaching whereby the student becomes imbued with the idea that since it is impossible to become familiar with the whole domain of medicine, he will at once limit his efforts to one particular field. Again, according to Dr. Harris, too much time is spent in various laboratories until the student comes to look upon disease as something located in a test tube rather than something affecting a living person. The doctor thinks it is a mistake that students should spend too much time in so-called research work.

He emphasized the great need for more general practitioners who possess a thor-

ough acquaintance with general medicine as well as an intimacy with the special requirements and habits of their patients.

The medical profession has been criticized for exorbitant charges. There is no doubt that in some instances fees have been exorbitant; but it is equally true that the great majority of the profession are inclined towards moderation in their fees. It is hardly necessary to enlarge on the physician's legitimate needs in the way of reading and study to keep abreast of the times. Everyone knows what that means and the expense attached thereto.

There has been an exodus to the city of young men and young women from the country until in many cases farms have been abandoned. Of course this explains the scarcity of physicians in the country. In fact, added to this we have the custom on the part of the farmer or villager to seek the specialist in the nearest city when occasion arises, rather than his own local doctor, if there is yet a local doctor.

Since the "clinic" idea has become so firmly implanted in the public mind, Dr. Harris advocates the organization and control, by the medical profession, of clinics where the public may receive the most efficient care at a price that is commensurate with its means to pay. This should be done in a way that no legally and properly qualified doctor who desires to participate will be left out and that each will be remunerated for his services.

THE PASSING OF HEALING CULTS

According to a letter written by the editor of the Christian Science Watchman, the sect is experiencing a change of heart so far as their attitude towards medicine is concerned. "The tragedies that have been permitted in the name of Christian science by its over-zealous devotees" says the writer, "have largely justified the widespread prejudice against it." The independent minority movement in Christian science, we are told, is endeavoring to bring a new spirit of sanity and common sense into the practice of mental healing by "recognizing the unselfish humanitarian labors of the medical profession in alleviating human suffering." Then the letter goes on to tell us something that we all knew long ago, namely, that Christian science practice has very largely become a commercialized faith cure. It is the hundred per cent Christian scientist and his unfortunate children who have been the victims of the so-called tragedies. Every

* The General Practitioner in the Medical Scheme. By Dr. M. L. Harris, Journal A. M. A., December 1st, 1928.

doctor knows that many of the sect have sought medical care surreptitiously when they become alarmed over the patient's condition. The letter may be looked upon as a return to sanity of a portion of the group or it may mean the beginning of the passing of the cult.

Almost in the same breath we have the announcement of the passing of the chiropractor. The attendance at the Palmer school has declined from two thousand, eight or ten years ago, to approximately three hundred. In about forty chiropractic schools in the United States the total attendance is less than two thousand. Even the squandering of many dollars on lobbyists has failed, in the result sought.

Osteopathy is also on the down-grade. The number of schools teaching osteopathy has decreased from thirteen in 1920 to eight in 1927. Not only is there a decrease in cult institutions but likewise in the number of persons enrolling each year. Evidently the campaign of public health education is producing results. In Lincoln's words, you can't fool all the people all the time. Why worry?

AN IMPORTANT ANALGESIC

It has been common knowledge for a long time among X-ray workers that the X-rays possess very important analgesic properties. Richards, in 1921, drew attention to one of the less common uses of X-ray therapy, namely as a means of controlling the pain of *tic douloureux*. In 1925 Fender drew attention to the X-rays as a means of relieving pain of chronic *spondylitis deformans*. Carter* goes into detail in regard to the condition in which the X-rays have been found advantageous in the relief of pain, namely, trigeminal neuralgia, chronic mastitis, paresthesias of the tongue, some forms of osteo-arthritis, herpes zoster, inoperable malignancies, furunculosis and carbuncle, pelvic inflammatory bands and adhesions involving gall-bladder, duodenum, ileocecal and rectosigmoid regions, and tuberculosis peritonitis.

Where the relief of pain is the prime object sought in these cases so-called deep therapy should be avoided. The kilovoltage should be limited to the least that will give the desired penetration. The technical details are known to every radiologist.

Desjardins of the Mayo Clinic in endorsing the use of the X-rays in allaying pain explains the action as follows. It is the

opinion that the major factor is the affect on lymphocytes infiltrating such lesions. Lymphocytic infiltration is a common and sometimes major feature of many inflammatory processes. Lymphocytes are very sensitive to the X-rays by which large numbers of these cells are destroyed. Sometimes pain is due to pressure on nerves as they pass through openings or foramina just large enough to admit their exit in a normal state. In the case of swelling due to local inflammation the X-rays have a very salutary effect.

It is of course understood that pain is always a symptom and should not be treated at the exclusion of efforts to get at and where possible to remedy the cause. In cases, however, which may appear incurable such as malignancies an effort should be made to make the patient comfortable.

THE ANNALS OF MEDICAL HISTORY*

With the year just closed *The Annals of Medical History* completes its tenth volume. Begun during the last year of the war this publication has maintained the high standard of excellence with which it began its career. It has been a distinct contribution to the cultural aspects of medicine. The papers published therein have been in a large measure of permanent value as distinguished from the purely scientific paper which may become obsolete in less than half a decade. *The Annals of Medical History* is printed on the finest paper and the illustrations are as high grade as it is possible to make them. The second decade, we are told by the publishers, is being ushered in by a larger Journal, that is in content, with smaller pages, published bi-monthly instead of quarterly. Subscribing to such a Journal is a sort of professional duty in as much as it has an ideal rather than pragmatic value. It carries no advertising matter which is a substantial source of revenue to other professional publications. Hence the reasonableness of the appeal for support by the medical profession as a whole.

* Paul B. Hoebler, Publisher, New York.

WALTER HULME SAWYER, M.D.L.L.D.

This is not a biography in any sense but an appreciation—extremely inadequate at that—of a devoted and well-liked friend. I dote on the word "like"—it means so much. One likes those who can never disturb his peace, who are always welcome

* Radiology, January, 1929.

whether he is in pajamas or dinner clothes, whether busy or idle. Sawyer measures up to this standard. It would be a circumscribed and miserly mind that did not cheerfully react to his comings-in and rejoice in his chummy down-sittings.

I have no particular concern to tell where he was born, although I know, or to reveal his age, although it is recorded in "Who's Who." My interest lies in the towering importance of the fact that he was born somewhere and in my generation, and that he still lives, mingled with regret that Michigan citizenry which knows him so well and esteems him so highly cannot proudly proclaim his birth among them. In camp-meeting phraseology, this Wolverine writer would "feel to rejoice" had parturition taken place here instead of over there but border warfare with Ohio ceased nearly a century ago. So that's that, or as was mentioned in connection with a one-time popular beverage, "that's all."

It is recalled that when his name was proposed for the presidency of the Michigan State Medical Society there was used a paraphrase something like this of Conkling's famous speech nominating Grant—"You ask whence comes our Candidate, and we answer, from Hillsdale and its College of which he is trustee and which has bestowed upon him the L. L. D. degree, from Ann Arbor when the Board of Regents is in session, from important State and National Medical bodies, from an exacting clientele wont to depend upon his ministrations"—and more besides. The occasion was inspiring and the subject altogether worthy.

In Hillsdale to speak of the Red Cross is to refer to Sawyer; the liberty loan or draft war board again Sawyer; the activities of the Rotary Club, Sawyer; worthy civic enterprises and industrial undertakings, Sawyer always. Indeed as to the latter his enthusiasm once led him in paths of perplexity. Did he succumb? No indeed. It was Walter working out alone a difficult problem.

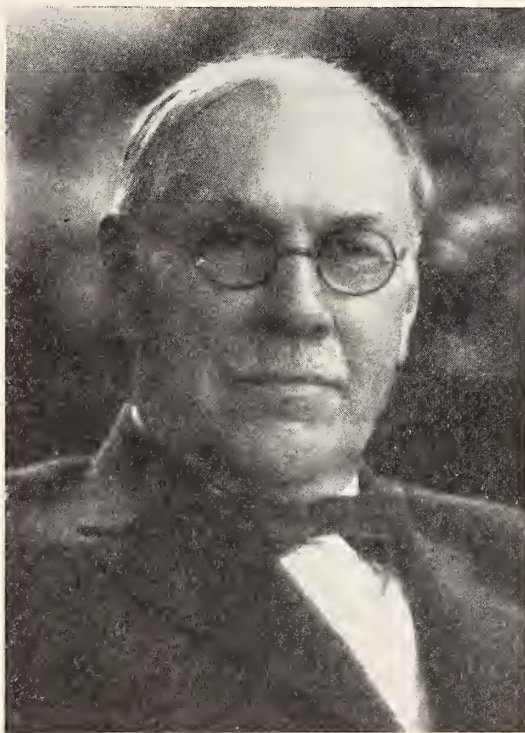
Once he was very ill and in grave danger. Was he courageous and unflinching? Ask any of the neighbors. He has recovered for which Dieu merci.

Apart from those connected with a charming family, his eye has been, largely, single to the interests of the profession of medicine. This has been his life, success in it his ambition—and success has been achieved. It may be said without exaggeration that the medical profession is deeply

his debtor. In emergencies he has been a prop and dependence. Affection and admiration for him are universal among his colleagues. He accepts responsibility, never holds off and always delivers the goods. On my Gorgas Memorial Calendar of today I read "Think before acting, act before forgetting." That's what Sawyer does.

My own association with him in business, and professionally and personally, has been most intimate. He is an admirable appreciator. No one has made to me so many amiable expressions. How stimulating and prideful the effect of these! In day-to-day contacts with fellow men such an example is worthy of emulation. In this speedy life too much "goes without saying."

Walter is a jolly good loser and has had large experience of this in bridge. His contagious laughter is music to the soul of C. B. B.



WALTER HULME SAWYER, M. D., L. L. D.

Dr. Sawyer '84m, is perhaps best known to Michigan graduates as a Regent of the University of Michigan, in which capacity he has given his best services to the University for twenty-two years. He was born in 1861, the son of George and Julia A. Sawyer, in Huron County, Ohio. Dr. Sawyer graduated from the Grass Lake (Michigan) High School in 1881 before entering the School of Medicine at the University. During the years 1881-1885, following his graduation, he was house surgeon at the University Hospital but ever since he has practiced in Hillsdale, Michigan, where he makes his home and where he married Miss Harriet B. Mitchell in 1888. Regent Sawyer is a trustee of Hillsdale College and has served as

a member of the Republican State Central Committee; the Michigan State Board of Registration in Medicine; the Detroit Academy of Medicine; the Tri-State Medical Society; a Fellow in the American College of Surgeons and as President of the Michigan State Medical Society. During the World War he was a member of the Michigan State Committee on Defense; the executive committee of the State Committee for Volunteer Medical Service Corps and contract surgeon assigned to Hillsdale College S. A. T. C.

—From *The Michigan Alumnus*.

EDITORIAL NOTES

A great many papers, especially those read at various conventions, come to the editor without the writer's address. It is the endeavor of the Journal to see that each contributor has an opportunity to revise the proof of his article. Sometimes this is impossible, owing to the fact that we have not had the writer's local address and his name may not be in the American Medical Directory. This is particularly true of contributors who may be connected with hospitals or institutions an insufficient length of time to be registered in the directory. All inconvenience may be avoided by attaching the address in full to the paper, as well as to detached charts or photographs which may be used as illustrations.

ODDS AND ENDS

"Choose diligently and well digest the volume best suited to thy case,
Touching not religion with levity nor deep things when thou art wearied,
The morning air fresheneth thy spirit, grapple then with science and philosophy,
Noon hath unnerved thy thought, dream then awhile on fiction,
Somber evening quieteth thy spirit, walk thou then with worshippers,
But reason shall dig deepest in the night and fancy fly most free."

—Tupper, Proverbial Philosophy.

Josiah Brush a traveling man,
Who sailed the briny main.
Was Mr. Brush in England,
And Senor Brush in Spain;
The Frenchman called him Monsieur Brush,
But the Germans were his bane,
For they always called him Herr Brush,
Which filled his soul with pain.

—Congregationalist.

At the age of sixty every man should be economically independent. The chances are he will not wish to retire then, and more power to him, but if he should wish to or if circumstances should

force him to it, he should be in a position to do so. To every man, and generally with the shock of unexpectedness, comes the stark truth of Emerson's lines in "Terminus":

It is time to be old,
To take in sail:—
The god of bounds,
Who sets to seas a shore,
Came to me in his fatal rounds,
And said: "No more!
No farther shoot
Thy broad ambitious branches, and thy root.
Fancy departs: no more invent;
Contract thy firmament
To compass of a tent."

—New England Journal of Medicine.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The Journal extends the sympathy of our members to Dr. C. C. Clancy, past president, by reason of the death of Mrs. Clancy at the family residence in Port Huron.

Invitation has been extended by the Wayne County Medical Society, President Hirschman, Detroit Convention Bureau, Detroit Hotel Association, Governor Green and the Detroit Chamber of Commerce to the American Medical Association to hold its 1930 session in Detroit.

President Hirschman participated in the A. M. A. radio program during the Chicago session. Dr. Hirschman spoke at 10 a. m., on January 17th.

Dr. A. William Lescohier has been appointed general manager of Parke, Davis & Company, according to an announcement made public on January 10 by Oscar W. Smith, president of the company. Dr. Lescohier has been connected with the company for the past twenty years and has most recently occupied the position of assistant to the president. After graduation from the Detroit College of Medicine in 1909 he entered the company's employ as a member of its scientific research staff. In 1918 he was placed in charge of the production of serums, vaccines, antitoxins, and other biological products.

In 1925 he became director of the Department of Experimental Medicine, and in that capacity was in constant touch with physicians and scientific workers in the leading hospitals and medical colleges of the country.

Dr. Lescohier is a Fellow of the American Medical Association and belongs to the American Therapeutic Society and other scientific organizations.

In professional circles the appointment of a physician and research scientist to this important post will doubtless be noted with interest, as the development and manufacture of highly scientific products for physicians' use has constituted the most important division of the company's business ever since its founding, more than sixty years ago.

Parke, Davis & Company are the world's largest makers of pharmaceutical and biological products, with home offices and laboratories in Detroit, Michigan, and with branch laboratories in a number of foreign countries.

DEATHS

The death of Dr. Delbert E. Robinson, December 23rd, 1928, ended the useful career of a man who did more good in his community for many years following 1896 than any other person. He located in Jackson that year after a very long post-graduate course in Chicago, besides two or more years in New York City. He began his career as a pioneer in abdominal surgery. Acting upon his convictions, he began immediately to treat patients by operative or by mechanical methods after the most searching and painstaking diagnosis of cases which had been previously overlooked by faulty or hasty efforts at diagnosis, or which if diagnosed were mostly studied at the University Hospital at Ann Arbor. In acute or fulminant cases this could not be done. Other physicians working with him soon recognized the fact that he had much to teach. Other surgeons were lead to improve their methods and were stimulated to attempt surgery that they had never tried before. One important point which shows him a real pioneer surgeon is the fact that many of the questions which came up in those days were far from settled; things were in the doubtful and experimental stage which have since become settled and are now common knowledge, and he had no confrere of sufficient surgical experience to consult with. Others soon began to do abdominal surgery because of Dr. Robinson's generosity in always being ready to assist and to coach them. Thus by taking the man's responsibility and sharing the anxiety of other cases, he carried largely a double portion of that most wearing of medical work. Very shortly after he began practice in Jackson he became the chief consultant of Jackson county in both medical and surgical cases. During the first years of his practice here he did not have the assistance of the X-ray, and was compelled often to operate on cases of bone and joint injury that no one would now attempt without such assistance. Observing his practice, fractures were treated much more precisely and successfully than before. He had a very large surgical experience covering many years. The number of lives he saved by prompt and skillful operative work is very great and the number of useful limbs and joints which his skill restored after injury would be astonishing could they all be tabulated. Very many of them were in the days when much of the work had to be done in homes or in the infancy of our hospitals. He practiced in Manistee from 1881 to 1895, and after a year of post-graduate work in Chicago, located in Jackson (1896), where he practiced until his final illness. He was one of the charter members and past presidents of the Jackson County Medical Society. Also a charter member and president for several years of the Jackson Art Association. He was one of the founders of the Jackson Clinic, and formerly chief of staff of the Jackson City Hospital. His medical memberships included the American College of Surgeons, the American Medical Association, the Association of Railway Surgeons, and others. He was surgeon for the New York Central lines, Michigan Electric Railway, Consumers Power Company. Kindly and modest, almost to a fault, he leaves a host of medical and lay friends to mourn his passing.

J. G. WHITE

Dr. J. G. White, Mount Clemens, died at his home, December 20, 1928.

FREDERICK SHILLITO

Dr. Frederick Shillito, aged 71, of Kalamazoo, is dead. The doctor had been a resident of Kalamazoo since 1902, where he had carried on a successful practice. He was born at Espyville, Pennsylvania, in 1857. He received the degree of A.B. at the Allegheny College in 1880, and later, the degree of M. A. He graduated from the Kentucky School of Medicine in 1883 and from the Rush Medical College at Chicago in 1890. Dr. Shillito was a past president of the Kalamazoo Academy of Medicine and at the time of his death, chairman of the legislative committee of the Academy of Medicine. He was a member of the Michigan State Medical Society and the American Medical Association. The doctor belonged to the Knights Templar and also the Elks. He is survived by his wife and a daughter, Miss Margaret Shillito, who lives at home, and a son, Frederick H., who is a student at the Medical School of Harvard University.

PHILIP EDGAR MARTIN

Dr. Philip Edgar Martin of Imlay City, Michigan, was instantly killed on January 8, 1929, at 9:30 p. m., by his automobile skidding into the ditch on the icy road while he was answering a call.

Philip Edgar Martin was born in Lindsay, Ontario, Canada, October 6, 1870, the son of Philip Sanford Martin and Mary Louise Carson. He was one of three children, the others being George, who died in 1903, and Jack, who died in infancy.

He was educated in the public schools of Lindsay until the age of twelve, then going to Upper Canada College of Toronto, a preparatory school, Trinity College of Medicine at Toronto three years, one year at Detroit College of Medicine, graduating in 1891 at the age of twenty-one years.

Immediately after graduation he located at Orion, Michigan, where he married Jessie M. Anderson, February 17, 1892. In 1899 he moved to Imlay City, where he continued the general practice of medicine until his untimely death.

Surviving are his wife, Jessie M., a daughter, Kathryn M., and a son, Harry E. One son, Kenneth C., accidentally met his death by drowning in 1913 at the age of seventeen.

Dr. Martin was a member of the following orders and societies: Lapeer County Medical Society, Michigan State Medical Association, American Medical Association, Royal Arcanum, Foresters, Modern Woodmen, Imlay City Lodge, No. 341, F. & A. M., and Romeo Commandery, Knights Templar.

Funeral services were conducted at the late residence of the deceased by Rev. James F. Goodman, and interment was in the Orion cemetery.

RESOLUTIONS OF RESPECT

Whereas, it has pleased Almighty God to take from our midst and from our association, our esteemed friend and brother, Dr. F. J. Fralick, therefore, be it

RESOLVED, That in his death the Montcalm and Ionia County Medical Association loses a faithful and considerate member and one whose

company, acquaintance and counsel will be deeply missed; the community in which he lived has lost a valuable citizen of high character and the family has lost a husband and father whose first thought and consideration was always for their welfare, and be it further

RESOLVED, That in testimony of our loss we, of the Montcalm and Ionia County Medical Association, extend our deep and sincere sympathy to the afflicted family and that a copy of these resolutions be sent to the family and that these resolutions be inscribed on our record book as a permanent record of the esteem and sorrow which we hold for our departed brother.

Montcalm and Ionia Medical Association,
By G. A. S. and J. F. P.,
Resolutions Committee.

COMMUNICATIONS

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

The good wishes of yourself and members of the Michigan State Medical Society, conveyed in your wire of January 1st, were a happy feature of the day. Please express my sincere thanks and very best wishes to the members of the Society for prosperity and happiness during the coming year.

Sincerely yours,
Fred W. Green.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I want to express to you my delight at the success of the recent conference of county secretaries at the headquarters of the A. M. A. in Chicago.

I believe that the insight which these secretaries received of the character of the personnel in charge of the different departments of the A. M. A. will do a great deal to increase their interest in organized medicine and confidence in the men who are in charge of our organization's activities.

Their reports to the members of County Societies should bring about a better understanding of the real value of the A. M. A., its councils and publications to the individual physician.

I am so thoroughly convinced of the educational value of this conference that I believe it should be repeated every three or four years.

Very truly yours,
Louis J. Hirschman, M. D., President.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I wish to express my appreciation of the way in which the Michigan State Medical Society and the American Medical Association made it possible for me, as one of the county secretaries, to have the opportunity of learning what is being done for scientific medicine in our state and country.

I never had realized what a great institution the A. M. A. really was. It was a pleasure to meet personally the different heads of the vari-

ous departments and find out that they were real men doing a real job. One of the most impressive things about the actual working of the organization was the length of time some of the employees had been there. I think this has a great deal to do with the success of the organization. The courtesy shown us by every one was to me remarkable.

I feel that I will be in a position to answer questions from the members of my County Society in such a way that they will realize more fully the value of being a member of the County, State and National medical organization.

I believe the meeting was well worth while and I am glad it was my privilege to be there.

Sincerely,
R. G. B. Marsh.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

The conference of secretaries and councilors in Chicago was certainly most interesting and pleasant. From the talks of the bureau chiefs, general secretary, and the editor, we gained a more definite impression of the tremendous work being done for the practicing physician.

Very truly yours,
C. E. Toshach, Secretary.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I am just back from the meeting of the Michigan County Secretaries at the A. M. A. headquarters in Chicago.

To my mind this is the most valuable meeting yet arranged for this organization.

To meet the heads of the various departments right on their jobs, to have them explain their hopes and plans to make a better medical practice in American communities and to render a better medical service to the nation, is an inspiration.

I was impressed with the type of men in charge. Each man seemed a master in his own field of service, competent, efficient, alert and with a sense of the relationship of the work he is doing with that of the other departments.

The program of the American Medical Association is very comprehensive, is well arranged and in the hands of able men, headed in the right direction.

What a boost to medical practice in our state if every practitioner could have the privilege of a visit to headquarters such as the secretaries have experienced.

Cordially yours,
Theron S. Langford, M. D. Secretary,
Washtenaw County Medical Society.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I wish to congratulate you, the officers and the Council of the Michigan State Medical Society on the success of the recent secretaries' conference at the headquarters of the American Medical Association in Chicago.

Up to this time, my idea of the American Medical Association has been that it was an organization of physicians which published a weekly journal, a few special journals, a medical journal for the laity, which holds an annual session, and which has a few committees who pass on certain classes of drugs and prosecute manufacturers of certain fraudulent proprietary drugs.

Since meeting, hearing, and conversing with the officers and heads of the various councils, bureaus, and departments, I cannot but be greatly impressed by their whole-hearted co-operation, their multitudinous activities and sincerity of purpose. They are doing everything possible to further the interests of the medical profession, promoting the art and science of medicine, and doing this from a great many unsuspected angles.

The primary purpose of the American Medical Association, as I see it, is educational; the classification of medical schools and hospitals for the student of medicine; the prevention of fraudulent exploitation of drugs and apparatus, the instruction of the laity on the truths of scientific medicine; and the self-instruction of the individual physician through the various publications, the Library Package, and the periodical lending service.

Other impressions which I have received from this conference are: the great importance of the local County Medical Society as the basic unit of organized medicine; that the County Medical Society meetings must not become subservient to hospital staff or other society meetings; that our Code of Ethics has not gone out of fashion, it being the one thing that has promoted the art and science of medicine and prevented fierce commercialism from entering our practice; that it is the duty of everyone of the medical profession to see to it that we give the utmost in thoroughness in the examination and care of the sick—by doing this we are giving the sick something which would be an absolute impossibility for them to get by any other means; and that the American Medical Association is an organization which works 24 hours a day and which spends two million dollars a year, all for my individual interest as a practicing physician and a Fellow of the association. It seems to me that I must be of quite some importance, after all.

I wish to thank you, the officers and council of the Michigan State Medical Society, for giving me this opportunity of attending this, the most interesting meeting in years.

Sincerely yours,
E. F. Sladek, M. D., Secretary,
Grand Traverse-Leelanau Co. Med. Society.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

Holding the conference of County Secretaries at the headquarters of the American Medical Association, Chicago, was a splendid idea.

The addresses of the various bureau directors, of Dr. Fishbein, the editor, and of Dr. West, the secretary, as well as the tour of the A. M. A. building, were most instructive and the knowledge gained should be of great value to every County Secretary.

Every County Secretary, so fortunate as to attend the conference, could not help being inspired by this splendid meeting.

Very truly yours,
C. A. Neafie, Secretary,
Oakland County Medical Society.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I have been attending medical meetings, group conferences, etc., ever since "the iron horse was a colt", many of them good, some worse. How-

ever, I will say that the Chicago meeting was one of the best arranged, most pleasant and instructive group meetings I have ever attended.

The evening meeting, preceded by a wonderful dinner which was followed by those two wonderful addresses by Doctors Harris and West, alone was worth the trip to Chicago.

I have been a member of the American Medical Association since my graduation, some nineteen years ago, but never until now did I appreciate what such membership meant to me personally, or what the association meant to the profession at large.

The meeting at the association headquarters on Thursday, at which the workings of the various bureaus and departments were explained to us by those in charge of these departments, was indeed a revelation to me, and I dare say, to most of the others present. It gave us an authoritative insight into the work of the association in its various ramifications and brought home to us very forcibly the immense value of the association to the State and County Societies and particularly to each of us as practicing physicians.

I want to congratulate you upon the success of this meeting. It was thoughtfully planned and wonderfully carried out.

Fraternally yours,
W. B. Newton, M. D., Secretary,
Alpena County Medical Society.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

This will acknowledge the receipt of your telegram expressing the protest of the members of the medical profession of Michigan against favorable consideration of H. R. 14070, "To provide a Child Welfare Extension Service, and for other purposes".

I thank you for telegraphing me your views in regard to this matter.

With best wishes, I am,

Very sincerely yours,
Carl E. Mapes.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

The gathering of the Michigan County Society Secretaries at the headquarters of organized medicine in Chicago was a fine gesture toward progress, and is bound to react in a favorable manner in the county units represented.

By singling out the secretary for a gathering of this kind it seems as though he is no longer considered a mere clerk. By giving him this opportunity of observing the highest form of medical organization it places him in a position of responsibility and leadership in his society, and acceptance of this invitation should compel him to meet the obligation as well.

Viewing the A. M. A. as a working unit, it seems to me that it is the keystone in the arch of service, and justification for its existence, as well as that of the County Society, lies in its program of service to the individuals who compose it.

We saw the A. M. A. from cellar to garret and in its every day working clothes doing its stuff to serve the 62,000 Fellows of the association. Organized and developed through years of toil, with the object of keeping clean the traditions of an ancient and honorable profession, it stands,

like a beacon light, giving to the world its beams in its effort to let the light shine on error, superstition and quackery, and to hold scientific medicine in its true course.

We are in accord with the plan of getting the secretaries together every year, and believe that the presidents should come along, too, and lay plans and exchange ideas pertaining to economics, organization, public health education, etc.

Sincerely yours,

Harry B. Knapp, M. D., Secretary,
Calhoun County Medical Society.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

The things that impressed me, on the occasion of the recent meeting of County Secretaries, in Chicago, would list about as follows:

1. The large attendance of Michigan Secretaries, mostly men in active practice.

2. The magnitude of the plant of the American Medical Association; very few members realize the number or the extent of the activities of our own organization.

3. The approachability of the men (and women) engaged in these activities; their willingness, even anxiety to be of real help to the Society and its individual members.

4. The command which this organization has, of the services for the asking, of the best and biggest men in the profession.

5. The special advantages of Michigan practitioners over most others in the use of the various helps offered by the Association to its members. If we can put this one idea over, it was indeed worth while.

With kindest personal regards, I am

Yours very sincerely,
John J. McCann.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

The idea of holding the Secretaries Conference in Chicago was a novel one and of inestimable value. There is always a great deal to be gained by meeting with and exchanging ideas with the other secretaries. In this instance, however, the inspiration of meeting and hearing the A. M. A. officials and the intimate knowledge of seeing how they do things at the headquarters of our parent organization was a real education.

Every county secretary should have this knowledge and experience.

Fraternally yours,

L. Fernald Foster,
Secretary Bay County.

"AS ONE SECRETARY SAW IT"

Dear "Doc":

Have to tell you all about my trip to the big city and visit to headquarters of the A. M. A.

In the first place friend wife decided that it was best she go along to see that I didn't get lost in the loop or get a stiff neck looking at the tall buildings, but you know that the best sights are seen when you keep your head down.

Well, we made the trip in fine time, arriving rather chilled from the drive. At the hotel the room clerk thought we looked suspicious because we only had one bag. Guess he figured that would not pay for the room if we skipped. But when

I explained we were only going to stay for one night, he agreed, only he didn't say so, that more than one bag would be foolish.

We got over the chill with the aid of a pocket piece that the wife had given me for Xmas, and the increase of spirits put us in fine fettle for the banquet to be served at 6:30.

Took my sweetie down to the "something or other room" for dinner and then I floated to the banquet room. Met a lot of the fellows, including the Jackson handshakers.

We sure had a fine feed laid out, oysters, consommé, steak, etc. Leading off the program was our president, Louis Hirschman, who expressed the usual "How happy we all are to be here," and then "Maurice" Fishbein with a flow of patter that would put a ballyhoo man to shame. My gosh, how that man can talk! It's a mystery how he keeps his words from tripping over each other.

I sure hope he keeps his promise to come over to our county and address a public meeting in the spring. He certainly should be able to interest the public.

Then everybody gave Dr. Harris, president elect, a standing greeting and he started his talk. Say! There's a truly grand old man. One of those keen old boys with a poker face. What he didn't tell the assembled medicos about giving away their services to free clinics. I only wish some of these pseudo-altruistic social workers could have heard it. The idea of pauperizing the public, and the cost of medical care were sure dragged out and exposed to view.

Following his talk Dr. Olin West, the general secretary, was the next on the list. Without any doubt, he sure is a hard hitter, and if he isn't sincere, then my ideas of who's who, are all wet. His talk was dovetailed with that of Dr. Harris, and if you could go back home, and hand out a lot of cheap psychology to the so-called "neurotics," without getting their histories and giving them a decent examination, then you sure are a hardshell.

Boy, he sure told a few truths, and do you know what particularly got me was his little allusion to the quacks, and how we were to blame for their existence when we, to use a Fishbeinism, get careless with the "stuff that is spread on the lawns and fields." I think he's right when he says, "The way to get rid of quacks and cults, is to be collectively and individually the best doctors it is possible to be.

Then after the introduction of some of the heads of the A. M. A. Bureaus we were dismissed, with the admonition, to be at the A. M. A. building in the a. m., ready for an all day session.

When I met the other half of the Mr. and Mrs. I was all enthused and we started out to see some night life. The bright lights, and the firewagons, and the danged L kept me up until late, and in the morning arrived at the headquarters feeling somewhat like the bottom of the waste basket. You know what that is like, somebody always tosses things there when they ought to be in the can with a top. Well, I got there late, but some of the young ducks arrived later than I.

The session was going good. Dr. Colwell was telling all about the hospitals and colleges, and how his department classified them, and how each co-operated with the other.

Then Doc Leech, head of the Chemical Laboratory, told us all about what he did there. He sure looks like a good head, one of these energetic fellows full of pep, good natured and competent looking.

Then The Doctor, Head of the Bureau of Investigation, A. J. Cramp. Talk about that professional appearance. If he wasn't the picture of all that a successful, competent, clear thinking doctor should be. Close cropped van Dyke, keen sparkling eyes, and just enough nervousness about his carriage to let you know of a high spirit underneath. He gave a brief summary of the duties and methods of his department, in investigating nostrums, etc.

Then Dr. W. A. Puckner, a fine, kindly old man, was the next speaker, Secretary of the Council of Pharmacy and Chemistry. Dr. Puckner is blind, yet to see and hear him talk you would never guess it.

About this time everybody needed a stretch so time was called and a little gab fest enjoyed. Met Dr. McLaughlin, head of the United States Public Health Service, who had happened to drop in at the A. M. A. headquarters. You know he was raised in our county and wanted to know how all his friends back here were. I forgot to mention meeting Ed Collins. He's one of the chemists that do the analyzing in the lab. Asked him if he was any good at liquor, but he said the only sure test was the survival one. Used to know "Collie" in Ann Arbor where he got his Ph. D., and played in the band with him. He played clarinet, and of course anyone who plays a clarinet wouldn't think of testing liquor. By the way, I wonder who it was that dropped that flask just before intermission. You ought to have heard it. It embarrassed me, as whoever it was sat close by, and I kept my face straight ahead so they wouldn't think it was me. You never know when one of these dry sleuths might be present and shoot you on suspicion.

Met another chemist, a Dr. Leland. He graduated from Ann Arbor before I did. Small world we were born in. He got his start over in Mendon in St. Joe township, and that's where I first saw light on the 4th of July about so and so years ago.

Well, the meeting resumed with Dr. Fishbein quoting a string of statistics and figures a mile long without even pausing for breath. All about how many Journals are put out, how many letters are answered, and details in publishing the magazines.

Dr. Woodward then told us all about the medico-legal side, the listing of decisions, the fight for income fee reduction for travel expense to medical meetings, and other interesting details of the legal struggle medicine is constantly up against.

Dr. John M. Dodson explained all the education

pamphlets put out by the national society, the charts and the periodical traveling libraries that are available to all members. He runs the Health and Public Instruction Bureau. It's too bad everybody doesn't know how much information they can get from his department by just paying the mailing expense on articles on almost any topic.

Winding up the bureau heads we heard Dr. Holmquist on "Physical Therapy." This is the youngest department of the Society, and they are doing lots of valuable work in classifying the various types of physical therapy apparatus and trying to keep the manufacturers within reasonable bonds in the advertising and disposing of their products both to physicians and laymen.

Dr. Olin West gave a marvelous summary of everything, urging all of us to remember that this is our Society; how everyone was joint owner and how willing each and every one of the secretaries and trustees were to go to any bounds to accommodate the members. He also touched briefly on the committee organized to ascertain the cost of medical care, and the hopes that this would bring out valuable information for both layman and physician.

Well, all in all, "Doc", I sure had a wonderful trip and it's too bad that every member of the A. M. A. was not able to take advantage of this conference, and more than that, I only wish that some of the practitioners who refuse to join with organized medicine could see, and hear what we did. If they only could, we never would hear this old cry of "It's a high and mighty closed organization run by a few to control and make money off the practicing physician."

I sure got my money's worth even if the wife did spend a lot of it shopping while I listened in.

Be sure and drop in to see us some time. You know what we are famous for in this locality.

Must close here as I have to send Friend Warnshuis a short write-up on this meeting as to the amount of my carfare to and from the city. You see, if we don't send him some kind of a write-up to pad The Journal with, he's apt to hold back on that carfare and hotel expense the council promised us. Speaking of this, it sure was funny to see how the secretaries from way up north turned out. I don't blame them, if I were in their place, they would never get me back home in this kind of weather.

Suppose I won't get to see you until the Jackson meeting, so be careful and let us hear from you occasionally.

Yours unprofessionally,
(Deleted).

NO FIXED LIMIT FOR LENGTH OF HUMAN LIFE

No fixed limit to the length of human life exists, declared Dr. Eugene Lyman Fisk before the recent meeting of the American Association for the Advancement of Science. "The prolongation of human life far beyond the most favorable life cycles lies within the legitimate bounds of scientific effort," said Dr. Fisk. "To believe that the length of human life is fixed by some supernatural agent is just as crude as to believe that all existing organisms came out of the Ark. Such an idea belongs to fundamentalism, not to science.

"The idea of time having an effect on ageing and decay exerts an enormous influence and may be found in practically every textbook of medi-

cine, but it is as baseless as the jargon of a voodoo savage. Old age is a disease. Death is always due to pathology. The things that happen in the course of time are the influential factors. Given sufficient knowledge and power, these things can be brought in some degree under human control, as Sir Arthur Keith has stated."

Possible causes of human breakdown were summarized by Dr. Fisk as heredity, infection, poisons, food deficiency or excess, air deficiencies or defects, hormone deficiency or excess, physical trauma or strain, physical apathy or disuse, psychic trauma or strain, and psychic apathy or disuse.—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

EDITOR: Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

CRIPPLED CHILDREN COMMISSION

The subject of hospital schools and convalescent education of crippled children is one which may well occupy some of the time and attention of members of this conference. It is too large a subject to be satisfactorily solved by the available, comparatively meager statistics. That the need for convalescent education is an established fact is recognized in the present crippled children law by the setting aside of more than one-third of the entire appropriation for educational purposes. The material contained in the following paragraphs is a review of the situation existing in the state today as it presents itself to workers in the field. It is hoped that by January 1, 1929, sufficient statistics will have been compiled to warrant the making of definite recommendations.

The original draft of the present law contained in provision for one large convalescent school to be located in Ypsilanti, or Ann Arbor. The present tendency as expressed by the component parts of the International Society For Crippled Children, is toward decentralization, and instead of one centralized convalescent institution, provisions are being made in various states for several smaller units.

It has been stated by promoters of the original provision for one large school that the same request should be incorporated in the proposed legislation. The reason given for this statement being that if a change is made, and instead of asking for one large school, several smaller ones located at various points throughout the state are desired, that the Legislature will say the change of mind indicates a vacillation of judgment, which might lead to injudicious expenditure of the appropriation sought.

The present bill became effective July 1, 1927. During the 15 months which have elapsed since that time, it has become quite apparent that the needs of the crippled children of the state will be more adequately met by the centralized program.

The keynote of the situation was sounded yesterday in the idea expressed

that the Legislative enactment, in order to accomplish the results desired, namely: the care, treatment and education of the crippled children of our state, must be built upon a firm foundation, the rocks of which are the suffering and neglect endured by cripples for the past twenty centuries, the enclosing walls of which are made of the sympathetic and scientific understanding of the needs of these handicapped potential citizens of our state, and from the towering heights of which there floats a banner dedicating this structure to the inalienable rights of our less fortunate brothers and not to the personal glory of any one selfish individual looking to his own glorification. It was stated yesterday that the present facilities for teacher training at Ypsilanti were inadequate. That might seem for an argument for locating a large convalescent hospital school in that city. Special training for teachers of classes for crippled children is necessary. The theory now in effect of requiring a life certificate or its equivalent, and one year of special training, is a good one.

Six teachers were graduated last season. Four new classes were opened this fall and one extra teacher added to an already established class. The number graduating from the special class department at this time seems to fill the present demand. Doubtless this judgment from the quality as well as numbers of the teachers for crippled children as they exist in Michigan today, the standards are high and the supply is adequately filling the demand.

It has been said of this great problem that it will never be solved until capital boards of education awake to the advantages of special class education. Michigan has eighty-five cities of three thousand and more population. At three per thousand, which is the estimated number of crippled children under twenty-one years of age, each of these has at least fifteen cripples. Statistics have proven that from one-third to one-half of all crippled children need the benefit of special class education. At a minimum of fifteen cripples per city, from five to seven or eight should be in special classes. Only five are re-

quired by law to form such a class. A great part of this educational program will have been met, when every city of at least three thousand population establishes and maintains a special class for cripples.

Michigan has an estimated number of 15,000 crippled children today. Five thousand to seven thousand five hundred of these should be in special classes. Public demand for special classes needs to be increased.

Michigan is supplied with three convalescent schools where academic education is provided. Sigma Gamma Convalescent Home reports forty-four beds. University of Michigan Convalescent School two hundred beds. Children's Hospital of Michigan reports two hundred and fifty beds. This is a total of less than five hundred beds for convalescent education. To learn much of consequence, a sick child needs to be under instruction at least half a school year. Assuming that these children remain that length of time, the total number of children receiving a recognizable quantity at the most is about one thousand annually. Add to this the number receiving instruction in special classes in public schools and it is easily deducted that the five thousand to seven thousand five hundred who need special class instruction is nowhere nearly approached.

Between these two extremes, the children receiving bedside instruction and those in special classes in public schools, there is a vast number who do not require acute hospital service, but who do need to be provided with an education. This class includes cripples in families where mothers and fathers work and have no one to leave at home in charge of crippled members of the family. There is an increasing demand for a place where these children can be boarded at the expense of the family or the state, and where scientific care can be administered.

Parents of crippled children fall into two main classifications: Those who mistreat and neglect their children and those who are over-indulgent, either of which produces as deleterious results as the other.

The mother who says "My child will never be operated on as long as I live," fails to take into consideration the fact that she will reach her three score years and ten long before her child reaches that age, and when she is dead and gone the world will not pamper him as she has done, and what is really the best thing she can do for her child is to train him in self-reliance, rather than encourage him in be-

coming a millstone on the neck of society.

Should the state of Michigan take these children away from their families by force and operate on them in hospitals? No, but she should carry on a program of education of the families as to the possibilities under modern medical science and surgery.

Should she place them in schools where they can be taught by people specially trained to handle their varying ailments, inferiority complexes, over-indulged dispositions and physical handicaps, and teach them to become self-supporting, self-respecting and respected citizens of whom she can be proud? By all means, the answer is "YES".

Assuming that convalescent education is both desirable and necessary, then how shall it be provided, and to whom shall it be made available? Try to put yourself in the place of the mother or father of scanty education, imagine a child of yours being a cripple—would you prefer to educate such a child in a large institution two hundred miles from your home, or in a smaller, more home-like unit close to your domicile where you might visit at frequent intervals?

It is argued that one large institution can be operated more economically than several smaller ones. Perhaps that is true in terms of dollars and cents, but this discussion has to do with human lives, and human possibilities, and the souls of crippled children.

For the purposes of argument will you consider a small or moderate sized convalescent hospital school, perhaps in connection with an orthopedic operating center, in southwest Michigan, another in southeast Michigan, one in northeast, another in northwest and one in the upper peninsula.

Does anyone expect to go out tomorrow and build all of them? By no means. This is an enormous problem. More so than most people comprehend, and must be a steadily growing proposition. What Michigan needs is a permanent program covering at least ten years of time, building one such unit every two years, thereby meeting the best interests of the crippled children and the citizens of the state.

In all the years gone by, there have been countless numbers of crippled children who have not had the opportunity of going to school. The primary school money paid year after year to their school district has been used for the extra advantage of the normal pupils who are able to attend school.

The cripples of the state have a big debt

owing to them at the present time. Not only have they been deprived of their rightful funds through physical inability to make use of them, but they are rightfully entitled to these funds today, plus the interest on them during the many years gone by.

Who shall be placed in these convalescent schools? Those crippled children under twenty-one years of age who do not need acute hospital treatment and who are not sufficiently well to be transported to and from schools maintaining special classes or who may, even better, be cared for in regular school classes. They should not be limited to children of school age, but should provide kindergarten and pre-school or nursery education.

Why should they accommodate those below school age? Because years of time are lost by waiting until the school age is reached. If crippled children can be treated and trained before reaching the age of sixteen years, then the Rehabilitation Department has its problem half solved. In like manner if treatment is given and some idea of self-reliance taught and the socialized education begun in pre-school years, then another large part of the problem has met solution.

The mentality of crippled children is an important feature. It cannot be judged hastily, social experiences and environmental limitations handicap a cripple. Given the right surroundings a so-called sub-normal cripple often advances educationally in amazing strides. It was stated yesterday that 25 per cent of the cripples of a certain school have a mental intelligence quotient below seventy. True, some of these are hopeless, but many of them, though definitely subnormal, may be trained in routine jobs and thus made independent. Whether subnormal, average, or super-normal, vocational as well as academic instruction should be provided.

Vocational education is a splendid start in the field, but vocational guidance and placement is the ultimate end to be sought. In addition to academic and vocational guidance, a placement department is needed in connection with schools. It is only when the state will make possible suitable treatment, education and training, and then provide employment as well, that the needs and the rights of cripples will be satisfactorily fulfilled.

MID-ANNUAL COUNCIL MEETING

The Mid-Winter Session of the Council was held at the headquarters of the Amer-

ican Medical Association on January 16th. The minutes appear in this issue.

The selection of meeting place was most happy. It resulted in Councilors gaining an insight of the tremendous amount of work that is being accomplished by the American Medical Association in the interests of the individual doctor. Every member will gain this insight if they will read the report of the Secretaries Conference published in this issue.

A. M. A. officials were most courteous and hospitable and tendered a luncheon on both days of this session. Expressions of gratitude and appreciation are hereby recorded and extended.

Miscellaneous Meetings—There are far too many interstate and sectional medical clinics and meetings. Loyalty to your County, State and American Medical Associations are of first importance. Inasmuch as these miscellaneous meetings tend to detract, it has been our policy to decline to give publicity to such outside meetings.

Dues—Annual dues are now payable to your County Secretary. Please lessen the labors of your Secretary by prompt remittance. They might as well be paid today in place of waiting till March 1st.

Mid-Winter Meeting of Council and Secretaries Conference—Elsewhere in this issue will be found the minutes of these sessions.

Income Tax Reports—Remember you are entitled to include in your expenses money spent in attending medical meetings and pursuing post-graduate work.

Staff Membership and Society Membership—Within the month a statement emanated from Detroit that 12 per cent of the members of hospital and clinic staffs in Detroit were not members of the Wayne County Medical Society. We are in accord with the Bulletin's statement that this is a deplorable situation. These 12 per cent of staff members benefit by reason of Medical Society activity, yet they are content to "crash in" on these benefits and decline to support those who labor in their interests. They accept staff appointment, yet desist from aiding organized effort that has made hospital appointments valued personal assets. We can classify such men in but one class—"Poachers." To terminate such poaching, County Society officers should exert their influence upon hospital

authorities to secure the adoption of a rule that no doctor can hold a staff position unless he is a member of his County Medical Society.

Personnel — Officers and Committees — Each month The Journal contains in its front advertising form a rostra of the officers and standing committees. In the back advertising form there will be found a list of County Societies together with the names of the President and Secretary of each county. This statement is made for the reason that several letters are received each month requesting information pertaining to officers and committees listed.

Legislation—Assurance is given to every member that every bill that is introduced in the legislature is being carefully read. The quest is to find enactment clauses that deal with or impinge upon medical practice. Bear stories are being circulated and dire predictions are being made in some quarters. We caution against these alarmists. When action becomes necessary the official call will emanate from this office. In the meantime, maintain friendly contact with your Senators and Representatives.

ST. CLAIR COUNTY

The St. Clair County Medical Society held its annual election of officers as follows:
President, Dr. George Kesl; vice president, Dr. C. F. Thomas; secretary and treasurer, Dr. Isaac Bowden; delegate, Dr. Alex McKenzie; alternate, Dr. Reginald Smith.
A motion to re-elect the retiring directors carried.
Dr. Wm. Cassidy gave a talk on fractures of extremities, which was appreciated by all.
Dr. I. Bowden, Secretary.

ALPENA COUNTY

The annual meeting of the Alpena County Medical Society was held Wednesday evening at the home of Dr. W. B. Newton on State avenue. Dr. E. L. Foley was elected president of the society; Dr. John S. Jackson, vice-president; Dr. W. B. Newton, secretary-treasurer; Dr. Foley, legal representative; Dr. S. T. Bell, delegate to the state society; Dr. D. A. Cameron, alternate.
W. B. Newton, Secretary.

SAGINAW COUNTY

The annual meeting of the Saginaw County Medical Society was held December 12. The following officers were elected: President, Mathew Kollig; vice president, Dr. Martha Longstreet; secretary-treasurer, C. E. Toshach; medico-legal advisor, W. J. O'Reilly; board of directors, Arthur Grigg, Henry J. Meyer, B. B. Rowe.
The Rev. Fr. Suprenant spoke on "The Thinking Man."
C. E. Toshach, Secretary.

BERRIEN COUNTY

The Berrien County Medical Society met in Niles at the Four Flags hotel on December 12th. Following a rabbit dinner, a business meeting of the Society was held. The nominating committee reported the names of Dr. H. O. Westervelt of Benton Harbor as president; Dr. J. J. McDermott of St. Joseph as vice president, and Dr. W. C. Ellet of Benton Harbor as secretary and treasurer.
It was moved and supported that these names be accepted and that a unanimous vote be cast by the secretary.
The paper of the evening was given by Dr. C. F. Boys of Kalamazoo. His topic was "Goitre." Dr. Boys gave a very interesting and matter-of-fact talk, with a brief classification of types and case history discussion of each. His paper was given in a direct and clear fashion and was very well received. The discussion that followed was general in nature and slightly more informal than usual.
After the discussion, Dr. Boys, with the aid of his amateur movie camera, showed the members some extremely clear and interesting pictures which he had taken on his recent elk hunting expedition in Wyoming.
The evening was therefore a very successful one from a scientific viewpoint, as well as a social one.
W. C. Ellet, Secretary.

HILLSDALE COUNTY

The Annual Meeting of the Hillsdale County Medical Society was held at the "Lantern Tea Room" Hillsdale, January 10, 1929, at 6 o'clock.
After an excellent dinner, the meeting was called to order by the President, Dr. H. C. Miller. Minutes of last meeting read and approved.
The Society then proceeded to the election of officers for the ensuing year resulting as follows: President, Dr. E. C. Bechtol, Montgomery; Vice President, Dr. C. J. Poppen, Reading; Secretary-Treasurer, Dr. D. W. Fenton, Reading.
Dr. Poppen then read an interesting paper on "Some Infections of the Tonsils." He described the follicular, membranous and ulcerative forms of infection, as well as the abscess of the tonsil or quinsy and pointed out the great difficulty of distinguishing some of the milder forms from diphtheria and scarlet fever. The discussion was very full and was participated in by all present.
Dr. Green then brought up the question of proposed medical legislation, explaining the nature and scope of proposed bills.
In view of the tragic death of Dr. and Mrs. J. M. Barnes in an automobile accident on Sunday, January 6th, it was
"RESOLVED, That we, the members of the Medical Profession of Hillsdale County deeply deplore the loss of a much esteemed member of this Society. That we wish to assure the members of his family of our heartfelt sympathy in their loss, which is ours also, and that of the community in which he lived."
The Secretary was directed to present the foregoing resolution to the bereaved family; and to spread it on the minutes of the Society.
DR. J. M. BARNES
James Madison Barnes was born at Ft. Wayne, Indiana, January 3, 1865. He died on Sunday evening, January 6th, 1929, at the hospital in Hudson, Michigan, following an automobile accident, in which Mrs. Barnes was instantly killed, and

in which he received injuries which resulted in his death a few hours later.

He was the only child of Benjamin Franklin and Catherine (Black) Barnes.

He received his academic preparation at the Fayette, Ohio Normal School, and at Wooster College, Wooster, Ohio.

After having completed his work in these schools, he taught penmanship and business management for a time in Sherwood College.

In 1891 he matriculated at the University of Michigan in the medical department. The following year he entered Toledo Medical School where three years later he received his Doctor's Degree. He also took post-graduate work at the Chicago Post-Graduate Medical School.

He began the practice of medicine in Blissfield, Mich., but in 1896 located in Waldron, Mich., where for 32 years he has been in active practice.

He was married on April 22, 1890 to Miss Jennie Joughin. Mrs. Barnes died March 10, 1922.

In 1925 he was married to Mrs. Lillian Heckman, who with him met such a tragic death.

Dr. Barnes was a member and an elder of the Church of Christ. He was a member of the Hillsdale County Medical Society; Michigan State Medical Society; American Medical Association, and had served as a member of the Volunteer Medical Association during the World War.

He is survived by his four children; Ruth A. of Ypsilanti; Franklin of Meadville, Pa.; Hugh of Chicago, and Mrs. Katherine Kortier of Jackson, Mich.; also three grand-children, Neil, Lynn and Ruth Ann Barnes.

Dr. Barnes was a fine example of the now fast-disappearing family physician and held a firm place in the needs and affection of the community of Waldron.

D. W. Fenton, Secretary.

MACOMB COUNTY

The first meeting of Macomb County Medical Society was held January 7, at Colonial hotel, Mt. Clemens. Dr. H. Wass of Utica, Mich., was elected to membership of the society. Applications for membership were received from Dr. R. E. Hawley of St. Claire Shores, and Dr. Paul Gageby, Warren, Mich. These were referred to the membership committee.

The members of the society regret the loss to the profession and to the society of Dr. James G. White, who passed away on December 21, 1928. Dr. White was a man of high ideals and commanded respect from all men in the community.

Dr. J. Scher read important extracts from the proposed legislation to be introduced to the next session of the legislature and urged members to secure the allotted number of names for the petitions to be circulated on behalf of same.

The speaker at this meeting was Dr. H. E. Northrup, chief obstetrician at Highland Park General Hospital. His subject was, "Deaths Incident to Everyday Obstetrical Problems." Dr. Northrup stressed the importance of pre-natal care.

Dr. L. M. Coulter of the State Department of Health, spoke to the society on behalf of the establishment of a County Health Unit. This matter was tabled for further consideration.

J. N. Scher, Secretary.

ST. CLAIR COUNTY

A regular meeting of this society was held at

the Harrington hotel, Port Huron, Michigan, Thursday, January 10, 1929.

Supper was served to twelve at 6:30 p. m., and the meeting called to order by President Kestl at 8:15 p. m., with the following members and guests present: Dr. R. E. Cumming of Detroit, and Dr. J. B. Porter of Port Huron, were present as guests and the following doctors, members of the society: Heavenrich, Waters, MacKenzie, Wellman, Patterson, Thomas, Kestl, Battley, Caster, Lane and Smith.

Dr. R. E. Cumming of Detroit, addressed the society on "Obstruction at the Vesical Neck Not Due to Prostatic Hypertrophy." The speaker reported several interesting cases, illustrating them by means of lantern slides. "In all cases of obstruction," said Dr. Cumming, "a most careful examination should be made, not only of the bladder, but also of the prostatic urethra by means of the cystoscope." One cause of obstruction, according to Dr. Cumming, and one which is sometimes overlooked, is the condition wherein a pouch is formed behind the prostate following the evacuation of a prostatic abscess. The speaker also discussed extravasation of urine into the soft tissues in injuries of the urethra and emphasized the necessity of an early suprapubic cystotomy with multiple three-inch incisions throughout the infiltrated areas. "So important is early treatment," said Dr. Cumming, "in these conditions, that we have our residents trained to perform suprapubic cystotomy and widespread incision of the extravasated subcutaneous tissues, at once, upon admission of a patient." Dr. Cumming presented two specimens of the prostate gland, illustrating unusual pathology. Several instruments for examination of the bladder, as well as for electric cautery, were shown to those present by Dr. Cumming.

Following the conclusion of the address, discussion was opened by Dr. D. W. Patterson, followed by Doctors MacKenzie, Heavenrich, Thomas and others, after which Dr. Cumming replied to many questions relative to urological problems and conditions.

The president thanked Dr. Cumming for visiting the Society and presenting such an interesting theme.

The meeting adjourned at 10 p. m.

George M. Kestl, President.

KALAMAZOO COUNTY

The forty-fifth annual meeting of the Kalamazoo Academy of Medicine was held December 18, 1928. The afternoon business meeting and scientific program was held in the academy rooms. The annual banquet and evening entertainment tendered by the Upjohn Company of Kalamazoo was held in the banquet hall at their plant.

The afternoon meeting was called to order at 1:30 by the president, Dr. W. E. Shackleton.

The minutes of the November meeting as printed in the bulletin were approved.

The report of the auditing committee was read. Moved by Dr. Andrews and seconded by Dr. Westcott that report be accepted and the committee be discharged. Carried.

The communications from Doctors Kiefer and Warnshuis regarding the proposed legislation was read and discussed. Referred to the legislative committee.

Election of Officers: Dr. Andrews nominated Dr. W. E. Collins for president. Dr. C. E. Boys moved that the nominations be closed and the

secretary be instructed to cast unanimous ballot for Dr. Collins. Seconded by Dr. Stewart. Carried.

The report of the nominating committee was as follows:

First Vice President—Dr. William Hoebeke.

Second Vice President—Dr. Olin H. Stuck.

Third Vice President—Dr. F. B. Crowell.

Treasurer—Dr. Hugo Aach.

Councilor—C. E. Boys, Kalamazoo.

Librarian—Dr. Clara Unrath.

Members Board of Censors—Dr. C. A. Bartholomew, Dr. A. E. Pullon.

Delegates to the State Society—Dr. R. D. Thompson, Dr. F. T. Andrews.

Alternate Delegates—Dr. J. F. Berry, Dr. Paul Schrier.

Submitted and signed by

W. R. Vaughan, Chairman,

D. C. Rockwell

G. M. Riley

Arthur A. McNabb

L. E. Westcott.

Moved by Dr. Stewart that this report be accepted and adopted. Seconded and unanimously accepted.

Dr. Shackleton reminded the Academy of those members who have been confined to their homes for several weeks with influenza. Dr. Thompson moved that they be remembered with flowers from the Academy. Seconded by Dr. Andrews and carried.

Dr. A. A. McNabb took the chair while the retiring president gave his address.

The scientific program was given by Dr. Temple Fay of the University of Pennsylvania, Philadelphia, Pa. His talk concerned epilepsy and the part played by the function of the Pacchionian bodies in the production of this condition. His theories concerning the physiology of the Pacchionian bodies were well substantiated by X-ray lantern slides and movies. Much of his research work and that of his associates on this subject is entirely new and unpublished and had been presented on only two previous occasions. Those who did not spare the time to attend this most interesting of all talks before the Academy certainly missed a chance of a lifetime. It is regrettable that more did not take advantage of this excellent program.

The banquet at the Upjohn Company's establishment was certainly up to, if not above, the standard set in previous years.

The toastmastership of Dr. O. R. Yoder was excellent, his introduction of the speakers with well chosen words no doubt stimulated them to do their best.

Wilbur Payne's address of welcome made everyone feel welcome and gave us an insight into the trials and tribulations of a pharmaceutical house in trying to give the physicians something that is of real value in their practice.

Dr. Ward E. Collins gracefully accepted the presidency of the Academy for this year and promised to lead if we will follow.

John A. Scott, Professor of Classical Languages, Northwestern University, recited Greek, which I am quite sure no one understood, and then told us much of the excavations of Schiermann. Very interesting.

BAY COUNTY

At the annual meeting, held December 17, at the Wenonah hotel, retiring President E. F. Crummer tendered the complimentary banquet to the members.

Dr. B. Pengally of Flint then gave a very inspiring address on the subject, "The Social Opportunity and Responsibility of the American Doctor."

The following officers were elected for the ensuing year:

President—Dr. H. P. Lawrence.

Vice President—Dr. A. F. Stone.

Secretary-Treasurer—Dr. L. Fernald Foster.

Medico-Legal Committee—Dr. A. W. Herrick.

Delegate—Dr. E. F. Crummer.

Alternate—Dr. A. D. Allen.

We have just learned of the death of one of our retired members, Dr. R. J. Smith, Whittemore, Mich. Dr. Smith's death occurred last October, but due to his inactivity it was just brought to our attention.

L. Fernald Foster, Secretary.

MARQUETTE-ALGER COUNTY

The regular December meeting of the Marquette-Alger County Medical Society was held at the Marquette branch prison on Tuesday afternoon, December 4th. The following guests were present: Doctors Simon Levin and Neilson of Houghton; Doctors King, Gregg and Curtain of Calumet; Dr. Manthei of Lake Linden, and Dr. Webster of Sault Ste. Marie.

A dinner was served at 1:20, following which the meeting was called to order by the president, Dr. A. W. Hornbogen at 2:15. The speaker of the day was Dr. Frank Smithies of Chicago, who gave a most interesting and instructive talk, illustrated by lantern slides, on the subject, "Gastric Hemorrhage; Its Significance and Treatment."

This was followed by a trip of inspection through the prison. The business meeting was adjourned to the January meeting when election of officers will be held.

Russell L. Finch, Secretary.

CALHOUN COUNTY

The annual business meeting of the Calhoun County Medical Society took place at the Kellogg Inn, Tuesday, December 4, 1928, at 5 p. m. Business session was called to order by the president, Dr. R. H. Harris. The secretary's report of the last meeting, as printed in the Bulletin, Volume XI, No. 10, was accepted as printed.

The name of Dr. Harvey C. Hansen, Battle Creek, Mich., graduate of University of Michigan, application for membership was read and referred to the executive committee.

Names of Dr. L. J. Brunie and Dr. Yolanda Brunie having been passed upon by the executive committee, were elected to membership to the society.

The following were elected unanimously to serve as officers for the ensuing year:

President—Dr. R. V. Gallagher, Battle Creek.

Vice President—Dr. Wilfrid Haughey, Battle Creek.

Secretary and Treasurer—Dr. Harry B. Knapp, Battle Creek.

The standing committees who were present made reports in connection with their several duties, others not present sent written reports. The Venereal Disease committee chairman, Dr. W. R. Chynoweth, reported that they were unable to proceed with a definite program of lectures, etc., for the reason that their proposed program, having been referred to the executive committee earlier in the year, was never acted upon by them.

nor were they given instructions to proceed. Dr. C. R. Hills, chairman of the tuberculosis committee, made a written report, and it is printed elsewhere in the Bulletin.

The president, Dr. Harris, retired in order to meet the speaker of the evening. Vice President, Dr. Gallagher, took the chair. Dr. Robert Fraser presented the proposition to invite the Trilogical Society, and the Indiana Academy of Oto-laryngology and Ophthalmology, to hold their meeting in Battle Creek, in December, 1929, together with the Calhoun County Medical Society. It was moved that the Calhoun County Medical Society co-operate in sponsoring this Eye, Ear, Nose and Throat convention in Battle Creek, and that an invitation be extended to them and a committee appointed to work out details. Carried.

The following committee was appointed: Dr. Robert Fraser, Dr. Wilfrid Haughey, Dr. Ben Holtom.

Under unfinished business the secretary and treasurer's financial report was received and placed on file and made part of the minutes.

Financial statement of Calhoun County Medical Society as at December 4th, 1928:

Cash on hand, Dec. 4, 1927.....	\$ 41.43
Receipts	
Membership Dues, 1928	1,621.00
From Advertising	96.00
Membership Dues, 1929, paid in advance...	105.00
Hygiea Assessments	164.00
	\$2,027.43
Disbursements	
State Per Capita Tax	\$1,080.83
Flowers	18.58
Entertainment	54.95
Printing, Stationery, Etc.	38.33
Secretary's Expense, Postage, Phone, etc.	62.18
Printing Bulletin	176.15
Hygiea Subscriptions	351.05
Secretary's Fee	50.00
	\$1,832.07
Balance on hand Dec. 4, 1928.....	\$ 195.36

We have examined the reports from which the above statement was compiled, and respectfully report as follows:

All receipts were checked to bank of deposit, and disbursements were checked against cancelled vouchers, and found to be in order.

The balance on hand at December 4th, 1928, amounting to \$195.36, was verified, and found to be in agreement with the bank records.

Croydon, Sutherland & Co.

Public Accountants.

Battle Creek, Mich., December 4, 1928.

Attention was called to the fact that the alternates and delegates to the State Society had not been elected. It was moved that the present delegates and alternates be re-elected. Carried. There was no new business and the motion to adjourn was made and carried.

Harry B. Knapp, Secretary.

At 6:30 o'clock p. m., the annual dinner of the Society took place in banquet hall at the Kellogg Inn. Eighty members and their wives enjoyed the dinner together. Music during the dinner hour was furnished by Mrs. Alta Drever. At the end of the dinner, Mr. Harry Hacker of this city, rendered two vocal selections.

The president, Dr. Harris, introduced the officers elect to the society and then called upon Dr. George Hafford, of Albion, to introduce the speaker of the evening, Dr. G. Carl Huber, of Ann Arbor, Mich.

Dr. Huber's talk was much appreciated and was listened to with a great deal of interest. He discussed the historical development of the University of Michigan, paying special emphasis to the strong type of men who laid the foundation of the present medical department. He mentioned the fact that the Anatomy Laboratories at Michigan at the time of its inception in the eighties had twenty microscopes, which were more than Harvard Medical School had at that time. At this time, also, the curriculum was increased from two to three years, and, in 1890, to four years. This was made necessary because of the new discoveries in bacteriology, chemistry, etc. He paid his respects to Professor Henry Sewell, who came from John Hopkins University, and who worked out the theory of immunization. He paid tribute to the work of Dr. Victor Vaughn, who became Dean in the medical department at the end of the eighties. He was a vigorous and hard working scientist. The men whom Vaughn selected on the faculty "earned their spurs," and many contributions to science came forth from this staff.

Vaughn instituted the combined course of two years in science and four years of medicine, giving the science and medical degrees which is now compulsory. Dr. Huber thinks that the present curriculum is subject to revision and that post-graduate study should not lead to a degree.

The talk was listened to with great interest, especially by the older physicians who were in Ann Arbor in the early days of its history.

Meeting adjourned.

TUBERCULOSIS COMMITTEE REPORT

Your committee wishes to submit a brief report of the work carried on by the Calhoun County Tuberculosis Association in the Calhoun County Public Hospital for the year ending September 30, 1928.

At the Calhoun County Hospital during the year there were held 50 clinics and 610 examinations made. There were found 105 cases of tuberculosis, 22 suspects and 41 cases to be kept under observation; 42 cardiac cases; 27 cases of chronic respiratory infections, non-tuberculosis, such as asthma, bronchiectasis and post-pneumonia; 7 cases of incipient thyroid. Out of the 105 tuberculous cases, 82 were admitted to the Calhoun County Public Hospital, 10 were non-residents and were referred to their own county or state institutions, and the remainder either changed climate or refused hospitalization. The non-tuberculous cases were referred to their family physicians for treatment.

The Anti-Tuberculosis Association had two nurses in the field doing social service and follow-up work. Wherever a case of tuberculosis was discovered, the nurse visited the home and attempted to bring all contact cases to the clinic for examination. After patients had been discharged from the hospital as arrested cases, the nurse follows up these cases, and sees that they report periodically to the clinic for a check-up.

The Tuberculosis Association nurse has checked up a little over 6,000 cases, and in doing this work various doctors in the county have given their services gratis.

This, in an abbreviated way, will give you an

idea of the work that is carried on by the Association.

The Tuberculosis Association and the Calhoun County Public Hospital wish to express their appreciation of the whole-hearted support that they have received, with the possibility of one or two exceptions, from all the physicians of the county.

Bone and joint cases in children, for the reason that they have an obvious lesion, we have found no difficulty in disposing of. We simply get an order through the Judge of Probate Court and send them to Ann Arbor.

At the clinics we have seen this year at least thirty cases of definite tracheal bronchial tuberculosis in children, ranging from the age of six to fifteen, and also a great number of under-nourished contact cases, which we consider pre-tuberculous and should be under observation.

We have no facilities at the Calhoun County Public Hospital for the care of these types of cases. Therefore, we recommend that the Calhoun County Public Hospital build an addition for the care of tuberculous children; this addition to be a Preventorium, a permanent structure to be operated twelve months, three hundred and sixty-five days in the year, for the care of tracheal, bronchial, pre-tuberculous and contact cases, for the hygienic, dietetic and systematic check-up of these cases under medical supervision.

Your committee feels that a Preventorium is of paramount importance, and no tuberculosis program is complete or functioning efficiently without it.

C. R. Hills, Chairman.

GRAND TRAVERSE-LEELANAU COUNTY

The annual meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson hospital on December 10, 1928.

Dr. Frederick C. Warnshuis of Grand Rapids, secretary of our State Society, gave a very instructive Dry Surgical Clinic in the afternoon.

The banquet of the retiring president was given in the Memorial pavilion, and we had as guests three state representatives and our state senator. Doctors Thirlby and Warnshuis gave the gist of the new proposed legislative bills. This was followed by talks by the senator and each of the representatives, all of whom seemed to favor these bills.

President Rinear presided over the annual meeting, which directly followed the dinner. There were twenty members present.

Dr. Warnshuis gave a short talk on the activities of the State Society, and on what the State Society gives us in return for our dues.

The election of officers for the next year then took place with the following results:

President—George F. Inch, Traverse City.

Vice-President—L. R. Way, Traverse City.

Secretary-Treasurer—E. F. Sladek, Traverse City.

Medico-Legal—F. P. Lawton, Traverse City.

Three new members were then elected to our Society: Philip Sheets, Traverse City; G. W. Bruner, Traverse City, and T. W. Thompson, Traverse City.

Dr. Pauline Beregoff, Traverse City, presented a very elaborate paper on "Diseases of the Breast" from a Histo-Pathological standpoint. This paper was thoroughly discussed by all members present.

E. F. Sladek, Secretary.

Regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson hospital on January 8, 1929.

President Geo. F. Inch opened the meeting with a few remarks in which he pleaded that the success of the year's activities of the Society depends upon the attendance and co-operation of all the members.

Petitions for the proposed new legislation were handed to Doctors Kyselka, Inch, Minor, Swartz, Thirlby and Sladek.

Dr. J. W. Gauntlett presented a case of a painful lame foot, of long standing, of a girl 18 years old.

The matter concerning the proposed series of health lectures in the Grand Traverse High schools, as sponsored by the Joint Committee on Public Health Education, was brought up and voluntary selection of subjects was accepted by the Society.

The following members were present: Doctors Inch, Kyselka, Way, Minor, Gauntlett, Swanton, Swartz, Thirlby, Lawton, Sladek and Smieseth.

E. F. Sladek, Secretary.

UNDULANT FEVER CONQUEST MAKES SCIENTISTS CASUALTIES

The conquest of the world's latest threatening disease, undulant fever, is causing heavy casualties among the scientists who are engaged in the fight. While the disease is not often fatal, it is highly infectious and almost all the men and women who have been studying it have acquired it, in spite of every precaution. In this respect undulant fever is like tularemia, another comparatively new disease. These two are causing grave concern in public health circles because of their rapid and wide spread during the last few years. Tularemia besides being very infectious, also results in death in many cases.

In this country four scientists of the U. S. Public Health Service have suffered from undulant fever, the latest one attacked being Dr. Edward Francis, who also acquired tularemia when he was investigating that disease. He had recovered, however, from tularemia before the attack of undulant fever. Of the others attacked by undulant fever, one, B. T. Stockrider, a laboratory technician, has entirely recovered. The other two, Miss Alice Evans and Dr. G. C. Lake, have recovered sufficiently to resume their work, but they have not yet regained health entirely, and are still subject to return attacks of the disease. It is these recurring attacks after periods of apparent recovery which give the disease its name of undulant fever.

Tularemia always attacked the laboratory workers during the first work on it. All six of the men who studied it for the U. S. Public Health Service acquired it, some of them had it twice. The same thing has been observed in other countries. The Lister Institute of London recently asked the Public Health Service for cultures of the organism causing tularemia, so that their scientists could study the disease. When the cultures were sent, warning was also sent that it must be handled with extraordinary care. In spite of this, one of the workers at the Institute acquired the disease. Knowledge gained in the study of the disease has now taught the investigators how to handle it safely.

Tularemia is usually acquired from rabbits who have the disease. Undulant fever may be acquired from infected goats, cows or other cattle or from their milk.—Science Service.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

THE MEDICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume 12, Number 3. (New York number, November, 1928). Octavo of 334 pages with 64 illustrations. Per Clinic year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 net. W. B. Saunders Company, 1928, Philadelphia and London.

There are reports from 22 clinics. In this up-to-date volume the medical man can obtain with a minimum of time the ideas prevalent in the practice of the leading internists in New York City. It is quite impossible to pick out any special article as they are all appealing. An excellent book.

THROMBO-ANGIITIS OBLITERANS—Clinical, Physiologic and Pathologic Studies. By George E. Brown, M. D. and Edgar V. Allen, M. D., Division of Medicine, Mayo Clinic. Collaborating in Pathology with Howard R. Mahorner, M. D., Fellow in Surgery, The Mayo Foundation. 12 mo. of 219 pages with 62 illustrations. Cloth, \$3.00 net. W. B. Saunders Company, 1928, Philadelphia and London.

This Mayo Clinic monograph deals very exhaustively with the subject discussing history, etiology, pathology as well as the various clinical types. And finally, diagnosis and treatment. The study is based upon the observation of over 300 cases. One of the authors has made a pathological study of 27 amputated specimens. It is a valuable study of peripheral vascular disease. The little work is well illustrated and contains 10 pages of bibliography.

ROENTGENOLOGY—Its early history, some basic physical principles and the protective measures. By G. W. C. Kaye, M. A., D. Sc. With forty-nine illustrations. Paul B. Hoeber, Inc., New York. Price, \$2.00.

This is a fascinating little work written by a master on the subject. It is an extension of the Caldwell lecture given before the American Roentgen Ray Society's Montreal meeting. The writer traces the history of radiology, describes the nature of the X-rays, and discusses at length the subject of X-ray protection and concludes with a forecast of radiology to the effect that its biggest field is likely to be found in the science of biophysics.

THE PRACTICE OF REFRACTION—W. Stewart Duke-Elder, M. A., D. Sc., M. D. Assistant Ophthalmic Surgeon to St. George's Hospital. 208 Illustrations. P. Blackiston's Son & Co., Philadelphia, Pa. Price, \$4.00.

The author declares in his preface that his object has been to produce a practical book of the greatest clinical value rather than a work on optics. The book is not burdened with mathematical formulae. The art of refraction cannot be acquired from books. Success is attained only by patient practice. Books at least can serve only as guides. Emphasis is properly placed on Retinoscopy which the author describes as the most useful method which when performed by an expert gives reliable results to an accessory of 0.25 D.

THE MEDICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume XII, Number II. (Nebraska University Number, September, 1928). Octavo of 254 pages with 40 illustrations. Per Clinic year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 net. W. B. Saunders Company, 1928, Philadelphia and London.

LABORATORY MANUAL OF THE MASSACHUSETTS GENERAL HOSPITAL—Roy R. Wheeler, M. D., and F. T. Hunter, M. D. Second edition and thoroughly revised. Lea and Bebig, Philadelphia, Pa., Price, \$1.75.

This little book has been thoroughly revised since the first edition in 1922. It covers the field ordinarily embraced by a manual on clinical laboratory methods as concisely as it is possible in the space of 100 pages. This little book should find a place in the office of every doctor whether he does his own laboratory work or not. It is the outgrowth of the requirements of actual practice in the Massachusetts General Hospital.

EARLIEST AMERICANS HAD BAD TEETH

Recent discoveries of very ancient Indians in New Mexico not only indicate that the early red men lived as long ago as 1500 B. C., but show that their teeth, in that far-off time, had suffered the same ravages as we endure today: caries or cavities, pyorrhea and alveolar abscesses. The causes for the development of these diseases in such an early race are hard to determine. Their food was meat and grains, such as we use today. Carious cavities, of huge dimensions, developed in unworn teeth, so we cannot ascribe caries to the wearing down of the teeth by coarse food. Pyorrhea was rampant and resulted after the age of forty-five or fifty, either in total loss of the teeth or their serious impairment. Abscesses are infrequent, and never so huge as is often seen in the pre-Columbian Peruvians. Alveolar fistulae have not yet been seen. A single case of impaction, out of fifty-four skeletons, was found. Recent investigations of the cause of pyorrhea tend to show that the trouble is a matter of bodily disturbance finding localized expression in the mouth. Its nature is, however, not yet clear and it is thought that examinations of the dental conditions in ancient races will aid in understanding the nature of pyorrhea.—Science Service.

Classified Advertisements

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Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

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THE DIETETIC TREATMENT OF DIABETES MELLITUS—A RESTATEMENT OF THE FUNDAMENTAL PRINCIPLES*†

L. H. NEWBURGH, M. D.

ANN ARBOR, MICHIGAN

As long ago as 1914, F. M. Allen had demonstrated that the principle of undernutrition was vastly more successful in the reduction of diabetic hyperglycemia and glycosuria than the older methods in use at that time. Joslin enthusiastically adopted this principle and made it the central feature in the routine treatment of his diabetic patients. Both men emphasized the value of a sharp reduction of calories, but paid little attention to the source of the energy of the diet, with the exception that they permitted only minimal amounts of fat. Joslin felt it necessary to keep the fat as low as possible as a safeguard against acidosis and Allen in one of his publications stated that "fat is a poison for the diabetic."

In order to appreciate the great value of low calory diets it is necessary to recall to mind the composition of the diets in general use during the preceding era. From time immemorial it has been good practice to build up the body of the sick individual, and no exception was made in the case of the diabetic. In fact it was considered essential to add large increments to the

weight of these patients, in order to counteract the emaciation so characteristic of that disease. In the second place every attempt was made to avoid carbohydrate. A typical diet of those days consisted of 200 grams of protein; 200 grams of fat, and a small amount of carbohydrate. The patient received some 2,700 calories and very frequently continued to have a glycosuria. The therapeutic failure was attributed by Allen to excess of calories, but another and simpler explanation was brought to light by estimating the glucose value of the diet by Woodyatt's method. When this is done

* From the Department of Internal Medicine, Medical School, University of Michigan.

† Presented to the Michigan State Medical Society at its annual meeting in Detroit, September 28.

it is found that the sort of diet just described contains 150 grams, or more, of available glucose. Need we be surprised that all but the mildest diabetics continued to excrete sugar in the urine while living on such a diet.

If now the type of diet used by Allen and Joslin be analyzed in the same way, its great advantage is easily understood. Such a diet might have the following composition: Protein 50 grams; Fat 30 grams; Carbohydrate 50 grams; with a glucose value of only 80 grams. Most diabetics are able to dispose of that amount of glucose.

But such a diet is intentionally deficient in calories. The prolonged and progressive undernutrition, with the accompanying incapacity caused by it, was accepted by its advocates as an unavoidable evil which was to be regarded as a welcome substitute for the distressing symptoms suffered by the uncontrolled diabetic.

In 1918 Marsh and I began an experiment designed to answer the question whether a middle course between these two extremes was not better than either of them. Our plan was to use a diet containing sufficient energy to maintain the individual following his usual occupation at a little less than the standard weight for his sex and age. In order to supply the two thousand to twenty-five hundred calories ordinarily required for low maintenance, and at the same time keep the glucose value of the diet low, it was necessary to use fat as the chief source of energy and to restrict the protein and carbohydrate because of their high glucose equivalents, as much as the principles of nutrition permitted. We had chiefly in mind that the diet should contain enough protein to establish nitrogen balance but no more, and that the total glucose of the diet must be great enough to insure complete combustion of the fat. Ladd and Palmer who determined the carbohydrate fat ratios when acetone bodies first appeared in the urine of diabetics, found that ketonuria did not occur until the fat of the diet was more than three times the glucose (calculated by adding 58 per cent of the protein to the carbohydrate).

A typical discharge diet used by us has the following composition: Protein 50, Fat 220, Carbohydrate 35. It has a glucose value* of 86 grams; a fatty acid†, glucose ratio of 2.6 and yields 2,300 calories. In practice the patients were first desugarized by a diet of this type but much restricted

in regard to energy. For this purpose we fed 15 grams of protein, 90 grams of fat and 12 grams of carbohydrate. The energy value is 960 calories. When the urine had been free of sugar for several days, proportionate increments were added to the diet until the desired maintenance level was reached or glycosuria reappeared. In the latter case the patient finally received a diet as near to his energy requirement as he could tolerate without glycosuria.

This procedure was used in the treatment of 190 consecutive, unselected cases. We then summarized our experience in the following terms: "a low protein, low carbohydrate, high fat diet produces and maintains an aglycosuric state, is not attended by acidosis and causes its disappearance when present (short of coma) at the beginning of treatment; maintains nitrogen balance; does not produce lipemia and causes its disappearance when present at entrance; supplies sufficient energy to avoid the evils of fasting and undernutrition and is not attended by downward progress in uncomplicated cases." This statement was published in 1923. The continued employment of the plan has merely strengthened our confidence in it.

It need scarcely be added that the administration of insulin, increases the responsibility of adhering strictly to proper dietetic principles. Everyone recognizes the life-saving quality of insulin in the treatment of diabetic coma. On the other hand, in the routine treatment of the controlled diabetic it should only be used to aid the patient in obtaining sufficient energy for maintenance when a diet containing his caloric requirement causes glycosuria. This conclusion is based on the conviction that insulin increases quantitatively the total amount of internal secretion but is in no sense curative. If the physician will employ the kind of diet described above he will find that four-fifths of his adult patients do not need insulin. In the case of children, because of their much greater caloric requirement, insulin is necessary to promote normal growth in most of these patients. During the past year we prescribed diets for 347 diabetic patients. Two hundred and fifty six of them, or 74 per cent were able to take a maintenance diet of 2200 calories or more, without insulin. The total glucose of the diet was at least 90 grams.

It needs to be emphasized that the low protein, low carbohydrate, high fat, maintenance diet, is the inevitable result of the application of the laws of nutrition to the

* Total glucose = 100% of the carbohydrate + 58% of the protein + 10% of the fat.

† Fatty acid = 90% of the fat + 46% of the protein.

specific metabolic problem of the diabetic. With this simple fact in mind, we can not avoid regarding Joslin's¹ recent adverse criticism of this dietetic procedure as an unjustifiable interference with a method that is working well. He finds that 47 per cent of his 609 diabetic deaths since the introduction of insulin were due to disease of the arteries (we refrain from questioning how many of these diagnoses were confirmed by autopsy, and how much this incidence of arterial disease exceeds that of a similar age group from the general population).

According to Joslin the prevention of arteriosclerosis is favored by reduction of weight to the normal level. Advice that we heartily accept. But we are incapable of finding any sound basis for the statements that "The avoidance of a high fat, low carbohydrate diet is another preventive influence. I suspect that the development of arteriosclerosis in our diabetics has been caused largely because the carbohydrate in the diet was lowered and the fat increased out of all proportion. Prior to weighed diets this resulted in coma but with undernutrition and insulin, patients avoid coma and live long enough to show the more subtle effect of the high fat diet, namely atheromatosis." To support these sweeping statements Joslin refers to the record of a patient reported by a colleague. This mild diabetic who died at the age of 58 had lived on a diet "low in carbohydrate with an excess of fat." During the last five years of his life his weight rose from 97½ pounds to 174 pounds. The autopsy disclosed severe vascular disease throughout the body. Can Joslin, who has taught all of us the importance of keeping down the body weight of the diabetic, seriously expect us to believe that this patient who gained 76½ pounds in five years became arteriosclerotic because the fat in his diet irritated his blood vessels. Would the great advocate of undernutrition have us forget that the glaring fault in this patient's diet was its excess of calories?

It is unfortunate that Joslin's paper does not contain a tabulation of the level of blood fats of patients alleged to be harmed by an excess of fat in the diet; for it is well known that the untreated or improperly treated diabetic often shows a marked lipemia; and all agree that its decline is excellent evidence that a proper diet has been prescribed.

Some years ago Marsh² and Waller showed that diabetic lipemia was rapidly reduced by the high fat diets used in this

clinic. In their summary they wrote, "It is certainly very strong evidence that the prevalent assumption which postulates that diabetic hyperlipoidemia is dependent on the excessive ingestion of fat is unwarranted." A summary of some of their data is reproduced in Table 1.

TABLE 1

Total Blood Lipids		Interval Days
Before Treatment Gms. Per Cent	After Treatment Gms. Per Cent	
1.59	1.54	20
2.73	1.10	38
8.1	2.09	66
3.31	1.01	260
2.63	1.00	395

Recent studies³ at the University Hospital have beautifully shown that the lipemia present in a group of patients was dependent upon the calories of the diet and that it was uninfluenced by the dietary fat.

The important facts taken from the record of one such patient will serve as an example. A young man who had been moderately obese for many years came to the hospital for the treatment of xanthomata. While still on an uncontrolled diet two determinations of his blood lipids gave the following readings: Total lipids 2.275 and 2.215 grams per cent; and cholesterol 0.323 and 0.316 grams per cent. The serum was creamy in appearance. Further examination showed that he was diabetic. He was desugarized and then given a series of diets containing increasing amounts of carbohydrate. During this period of 35 days he lost 29 pounds due to the low energy values of the diets. The xanthomata began to involute shortly after the diabetic diets were begun and had disappeared before the end of this first period. Throughout the second period of 30 days his diet consisted of protein 55 grams, fat 210 grams and carbohydrate 300 grams. These 3310 calories daily caused a gain of 8 pounds and a return of the xanthomata and the glycosuria. The blood fats at the end of this second period were: Total lipids 2.416 grams per cent and cholesterol 0.400 grams per cent. Finally he was given a diet containing the same amount of protein and of fat but only 100 instead of 300 grams of carbohydrate. It yielded 2510 calories. The patient again became sugar free and the xanthomata began to disappear. He neither gained nor lost weight. After 45 days on this diet, the blood fats were as follows: Total lipids 1.175 grams per hundred and cholesterol 0.225 grams per hundred. The important figures for our present purpose

are brought together in Table 2. The table makes it clear that the marked lipemia which resulted from a high fat diet excessive in calories, was reduced to half its former value in 45 days by a second diet containing the same amount of fat but whose calories had been lowered to the maintenance level. It is evident that, in this patient, fat was without effect upon the lipemia except in so far as it was a source of calories.

TABLE 2—THE RELATION BETWEEN CALORIES AND BLOOD FATS

Protein	Fat	Diet		Blood Fats		Remarks
		Carbo- hydrate	Cal- ories	Total Lipids Mgs. %	Choles- terol Mgs. %	
55	210	300	3310	2416	400	Glycosuria
55	210	100	2510	1175	225	Weight constant Urine normal

CONCLUSIONS

Some clinicians believe that diabetic arteriosclerosis bears a casual relationship to the patient's diet. At present there is insufficient evidence to either prove or disprove this hypothesis.

If such a relationship exists, the fault lies in excess of calories. The vascular disease is not caused by the metabolic products of fat and the latter may take part in the production of arteriosclerosis only in so far as it is a source of calories.

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STANDARDIZATION OF INSULIN TO TEN UNIT, FIFTY UNIT AND ONE HUNDRED UNIT STRENGTHS*

CHARLES L. HESS, M. S., M. D.

BAY CITY, MICHIGAN

Insulin solutions for clinical use were restricted, originally, to a strength of five units per cubic centimeter. Later, as the action of insulin became better understood, there were placed on the market greater strengths such as those containing 10 units, 20 units and 40 units of insulin, respectively. Finally, 80 unit and 100 unit insulins were added. This range of concentrations would seem very convenient for with a given dosage of insulin, say 20 units, one could use either one cubic centimeter of 20 unit insulin, one-half cubic centimeter of 40 unit insulin or only one-fourth cubic centimeter of 80 unit insulin. As regards the use of insulin subcutaneously, most diabetic patients object to repeated injections which are as large as one cubic centimeter. Even the use of three-fourths of a cubic centimeter causes some complaints. A tender lump is formed that is not massaged away easily and may persist for more than a day. Injections of one-half cubic centimeter or less, given with careful technic, usually lead to little or no discomfort.

So long as 10, 20, 40 and 80 unit insulins are used with insulin syringes graduated in units for each different strength, the ordinary patient has no trouble in measuring the amount of insulin desired as the number of units may be read directly on the scale. When the syringe is broken, too frequently a new syringe with the same graduations cannot be obtained on short notice. However, standard one cubic centimeter or one and one-half cubic centimeter long shank syringes are practically always carried on hand by drug stores and when

one of these is obtained the problem arises of converting the unit dosage into terms of a cubic centimeter. For instance, 17 units of 40 unit insulin is contained in .42½ c.c. It would be simpler if dilutions of insulin were made more suitable for the standard metric syringe, such as dilutions of 10 units, of 50 units and of 100 units per cubic centimeter.

With the 100 unit insulin, the units may be read off directly on the long shank syringe graduated in hundredths such as the ordinary tuberculin syringe. Thus, 40 units would require forty hundredths of a cubic centimeter. Dosages of thirty or more units may be measured with less than one per cent of error.

With the 50 unit insulin, the number of hundredths of a cubic centimeter required is twice the number of units desired. In this case, 20 units would require .40 c.c. Fifty unit insulin is more suitable for injections of five to thirty unit dosages requiring .10 to .60 c.c. on the metric syringe. For diabetic use, by far the major-

* Presented before the Section on Medicine at the 108th Annual Meeting of the Michigan State Medical Society at Detroit, September 28th, 1928.

ity of insulin injections come within this range.

Injections of less than five units are seldom administered and in these cases, in place of the 50 unit insulin, 10 unit insulin may be used. The number of units are then read directly in tenths of a cubic centimeter.

Data on patients for the clinical effects of the 50 unit and also of the 100 unit insulin in comparison with the 40 unit insulin were obtained by testing the urine for sugar and by determining the sugar content of the blood one-half or one hour before and two hours after weighed meals, preceded by the insulin under study**. Tests for urinary sugar were made with Benedict's qualitative solution (J. A. M. A., 57:1193, 1911). Blood samples were drawn in the laboratory and immediately tested for sugar by the method of Folin and Wu (J. Biol. Chem. 38:90, 1919, *ibid.*, 41:367, 1920). All diets were in anti-ketogenic balance, carried two-thirds to one gram of protein per kilogram of patient's weight and, in most cases, ranged from 30 per cent to 50 per cent over the basal metabolic rate, tested with the Boothby-Sandiford gasometer.

CASE REPORTS

Case 1—A diabetic, No. 1871, female, aged 45, five feet three and one half inches in height and weighing 125 pounds, was under diabetic regimen for over three years. For two years, she was on a diet of carbohydrates 60 grams, protein 47 grams and fat 147 grams, total calories 1769, with insulin one-half hour before the morning and the evening meals. The diet was divided so that the principal meals were given morning and evening with a light lunch at noon. Comparisons of her urinary and blood sugars, following the administration of the 40 unit, of the 50 unit and of the 100 unit insulin, are given in the first half of Table 1.

Case 2—A diabetic, No. 1590, female, aged 46, five feet three inches in height and weighing 135 pounds, had diabetes for seven years. At the time the tests were made, she was on a diet of carbohydrates 60 grams, protein 60 grams, fat 80 grams, total calories 1200. This was intentionally low as she had a basal metabolic rate of minus 15 per cent and gained weight on a diet over 1,400 calories. The diet was divided into morning and evening meals with insulin and a light lunch at noon without insulin. The results of comparative tests are found in the second half of the table.

In these two patients, the variations in the urine and blood sugars were no greater for 50 unit and 100 unit insulins than for 40 unit insulin alone. Both of them were tested at different times for more than a year until it was found that 40 unit, 50

unit and 100 unit insulins could be used interchangeably without any effect being produced by one concentration that was not produced, in a similar condition, by each of the others.

Ten other patients with blood sugar renal thresholds between seventeen hundredths and twenty-two hundredths per cent, were given 50 unit and 100 unit insulins to use interchangeably with 40 unit insulin for several months. When 40 unit insulin kept the patient's urine sugar free before and after meals, the 50 unit and 100 unit insulins did likewise. Blood sugars were determined only when the patients reported in for their routine monthly tests. No differences were found that could be attributed to any one of the three dilutions used.

At first it was thought that the 100 unit insulin might be absorbed more rapidly than 40 unit and 50 unit insulins and, hence, act more quickly and intensely. In certain patients taking 40 unit insulin with a given meal and insulin dosage and with their blood sugar averaging twelve hundredths per cent, two to two and one-half hours after eating, hypoglycemic symptoms did occur when 100 unit insulin was substituted for 40 unit insulin. However, these reactions were rather inconstant and would also occur, at times, following the use of 40 unit and 50 unit insulins. Later, it was found that such reactions with 100 unit insulin were seen in two types of patients, those who had recently been brought out of a diabetic coma and those who had been on a weight reduction diet. The cause of these reactions apparently was due not to the use of insulin in higher concentrations but rather to some body factor such as a low glycogen reserve. This appeared the most likely as these irregular reactions disappeared within two or three weeks, in both groups, after the total caloric intake was increased.

SUMMARY

1. For diabetic patients on a full maintenance diet, 50 unit and 100 unit insulins are apparently interchangeable with 40 unit insulin on a unit basis and may be given in the same manner with expectation of obtaining the same effects.

2. For patients either following coma or on a weight reduction diet with associated low glycogen reserve, insulin of minimal dosages and lower concentration is recommended.

3. Two-thirds of a cubic centimeter of 40 unit, 50 unit or 100 unit insulin is about

**Forty unit insulin, Stearns, was purchased on the market while 50 unit and 100 unit insulins were obtained from Frederick Stearns and Company of Detroit.

TABLE I

Comparisons of the Effects of 40 Unit Insulin with the Effects of 50 Unit and 100 Unit Insulins in Diabetes.

Date	Insulin				Diet			½ Hr. before Meal		2 Hrs. after Meal	
	Units per c.c.	Number of Units	Hour before Meal	Time of Day	Carbohydrate gms.	Protein gms.	Fat gms.	Urinary Sugar	Blood Sugar	Urinary Sugar	Blood Sugar
Case 1—Patient No. 1871											
7-24-26.....	40	26	½	A. M.	22	17	50	0	% .17	0	% .09
7-26-26.....	50	26	½	A. M.	22	17	50	0	.20	0	.11
8- 2-26.....	40	26	½	A. M.	22	17	50	+	.22	0	.14
11-10-26.....	50	26	½	A. M.	22	17	50	+	.25	+	.20
11-11-26.....	40	26	½	A. M.	22	17	50	+	.33	+	.20
11-12-26.....	100	26	½	A. M.	22	17	50	+	.22	+	.20
7-22-26.....	40	24	½	P. M.	37	17	57	0	.....	0	.08
7-23-25.....	50	24	½	P. M.	37	17	57	0	.....	0	.09
7-26-26.....	50	24	½	P. M.	37	17	57	0	.....	0	.08
8- 2-26.....	40	24	½	P. M.	37	17	57	0	.....	0	.08
Case 2—Patient No. 1590											
5-10-26.....	50	28	1	A. M.	29	20	30	0	.....	0	.13
5-11-26.....	50	28	1	A. M.	29	20	30	0	.....	0	.09
5-12-26.....	50	28	1	A. M.	29	20	30	0	.....	0	.10
5-18-26.....	40	28	1	A. M.	29	20	30	0	.....	0	.13
5-19-26.....	40	28	1	A. M.	29	20	30	0	.....	0	.07
11-11-26.....	100	40	1	A. M.	29	20	30	+	.22	+	.17
11-12-26.....	40	40	1	A. M.	29	20	30	+	.21	+	.17
11-13-26.....	50	40	1	A. M.	29	20	30	0	.20	0	.13
5-11-26.....	50	18	½	P. M.	25	27	30	0	.....	0	.13
5-12-26.....	50	18	½	P. M.	25	27	30	0	.....	0	.07
5-14-26.....	50	18	½	P. M.	25	27	30	0	.....	0	.08
5-18-26.....	40	18	½	P. M.	25	27	30	0	.....	0	.12
5-19-26.....	40	18	½	P. M.	25	27	30	0	.....	0	.10

the maximum volume the average patient tolerates on repeated injections without complaint of local tenderness and persistence of induration.

4. The dosages of 10 unit, 50 unit or 100 unit insulins are much easier to compute in terms of a cubic centimeter than those of 20 unit, 40 unit or 80 unit insulins.

5. Standardization of insulin solutions to 10 unit, 50 unit and 100 unit strengths is recommended for general use with the standard long shank (tuberculin) metric syringe.

6. Fifty unit insulin will meet most requirements and is adapted especially for injections of 5 to 30 units. For injections of less than five units, 10 unit insulin might be preferable. One hundred unit insulin is advised for dosages greater than 30 units for patients who object to injections of amounts over two-thirds of a cubic centimeter.

FLYING ELECTRONS CAUSE EVOLUTIONARY CHANGES

The mutations, or sudden evolutionary changes, that can be caused by exposing living organisms to X-rays, radium and similar powerful radiations, are probably due to high-speed negatively charged electrons, or beta rays. Such rays are given off directly by radium, and arise as a result of X-ray bombardment of solid matter. The researches on which this conclusion is based were described before the American Society of Zoologists by Dr. Frank Blair Hanson of Washington University, St. Louis. Dr. Hanson exposed fruit flies to the action of radium, giving different sets of them varying degrees of protection behind thin lead screens. The number of mutations produced varied according to the degree of protection. Then he made measurements of the number of beta particles that got through the same set of screens, and found that these varied in exactly the same numerical proportion as the mutations. In brief, the more intense the beta-ray bombardment, the more frequent the mutations.—Science Service.

ASCHEIM-ZONDEK HORMONE TEST FOR PREGNANCY

The Aschheim-Zondek hormone test for the diagnosis of pregnancy was carried out in 132 cases by Henry W. Louria and Maxwell Rosenzweig, Brooklyn. Eighty-seven specimens came from women in all stages of pregnancy and showed a positive reaction in 98 per cent. The earliest case of pregnancy examined was in a woman whose menstrual period was seven days overdue. There were several other women in the first three weeks of gestation, all of whom showed a positive test. The importance in this type of case is obvious, in that a diagnosis of pregnancy is possible before physical examination is positive, thereby differentiating the pregnant uterus from the slightly enlarged nonpregnant uterus. The remaining forty-five specimens obtained from nonpregnant patients showed a negative reaction in 91 per cent. The test is recommended, therefore, on account of its high percentage of correct results and its simplicity. Further experience with the test will undoubtedly aid in reducing the element of error.—Journal A. M. A.

THE IMPORTANCE OF EARLY DIAGNOSIS OF DIABETES*

HENRY J. JOHN, M. D.

(Cleveland Clinic)

As a result of many observations and long experience we have come to realize that the proper time to treat tuberculosis is in its incipency. It is then that we can get the best results and can restore the patient to normal life and to his work so that he can take care of himself and of his family. In a late stage of tuberculosis, when both lungs are involved and the process is very extensive, a cure can rarely be accomplished and even so it can be brought about only after a long, tedious and expensive course of treatment, and the result at its best is questionable. Not only the medical profession but also the public has been educated regarding the proper treatment of tuberculosis, consequently there is little or no difficulty in persuading the patient to submit to the proper routine as soon as any signs of incipient tuberculosis become manifest, and the cure depends merely upon the establishment of a well-standardized routine.

Now, if we consider the problem presented by diabetes, this in substance is not different from that presented by tuberculosis. Here, too, we are dealing with an "incipient stage" which for lack of a better term I shall speak of as the "pre-diabetic stage", and we also deal with an advanced stage, which has been described in the literature in its final phase as "total diabetes". By this latter term we mean the condition in which the patient is unable to burn any carbohydrate and converts into sugar—and consequently excretes—58 per cent of his protein intake and 10 per cent of his fat intake. Fortunately, such cases are rare, but they do exist. Between these two extremes we have cases of diabetes in all degrees of severity.

The problem of treatment immediately presents itself. Naturally we cannot offer a standardized formula which would fit all cases—as all cases are not alike and consequently cannot be treated in the same way. We must individualize the treatment in all cases according to the needs of the patient and it is for that reason that each patient presents a problem which must be individually worked out and his needs ascertained.

Treatment, of course, can begin only at the time when the patient presents himself for examination, and the patient usually does not come until he has convinced himself that there is something radically wrong with him, that he is losing weight, is drinking a large quantity of water and is passing a great deal of urine. The diagnosis is easy then, for we are confronted with a frank case of diabetes. However, we oc-

asionally see also a different type of case, one in which no symptoms whatever are present. In such a case the patient consults the physician for some other reason, and the physician, in making a thorough examination, detects a trace of sugar in the urine. In other cases glycosuria is discovered in the course of an examination for life insurance.

The question which arises in the latter types of cases is: Can we disregard a trace of sugar in the urine, or should we do something about it? Do we disregard crepitant rales in the apex of a lung? No! We refer the case to a specialist for his opinion and for X-ray study. In a case in which there is a trace of glycosuria the problem is identical. If we are equipped to do it, a blood-sugar test should be made at once, preferably two and a half hours after a meal rich in carbohydrate, and if the blood-sugar is above the normal, then we may know that we are dealing with a case of diabetes. Or we may go a step further and make a glucose tolerance test. If one is not equipped to make these tests, then the case should be referred to a physician who is so equipped.

In the course of routine blood-sugar examinations made daily in a large series of cases as the patients go through a large diagnostic clinic, it is amazing to see how frequently cases of diabetes are thus picked up—cases in which there has not been a sign or symptom of diabetes. In other cases in which glycosuria is discovered in the course of a routine examination, further tests either show that incipient diabetes is present or prove that the glycosuria is non-diabetic, in other words, that the patient has a low renal threshold.

In many cases in which the patient comes to our clinic because of some other ailment, and neither he nor the examining physician has even the slightest suspicion that a diabetic condition is present, we find in the routine blood examination a blood-sugar value of from 300 to 400,

* Read before the Section in Medicine, Michigan State Medical Society, September 27, 1928.

which may or may not be accompanied by glycosuria. The highest blood-sugar value without glycosuria which I have found this year was 552. This figure, of course, is exceptional, although figures between 200 and 300 are not rare. From this, one can readily see that the examination of the urine alone is hardly sufficient if the best results are to be obtained.

Do the mild cases of diabetes require treatment? I feel that the early cases are the most important cases with which we have to deal. The data in a mild, early case

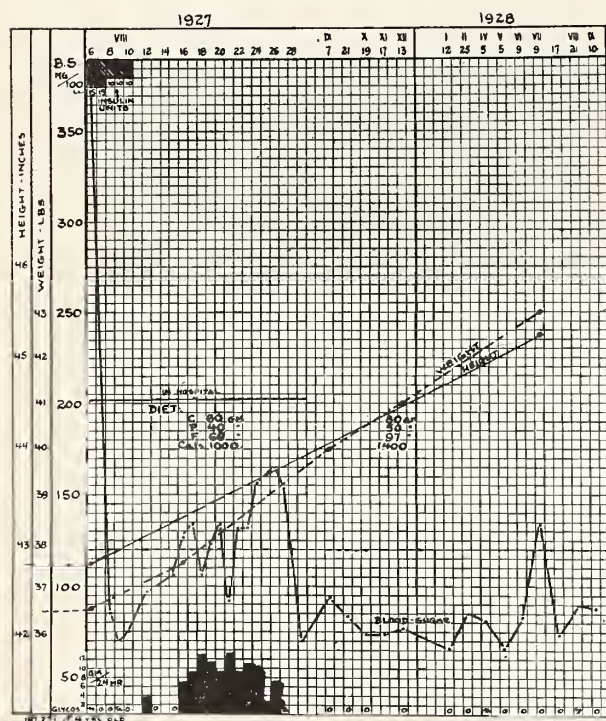


Chart 1

Chart showing the progress in a case of early or functional diabetes in a boy 4 years of age. The fasting blood-sugar values were kept at a normal level for over a year without insulin, the child meanwhile making a normal gain in weight and height.

of diabetes in which the condition is kept under control by means of a mild restriction of diet alone are shown in Chart 1. The patient was a four-year-old boy who came under my care when his blood-sugar content was 375 mg. per 100 c.c. and severe glycosuria was present. I kept him on insulin treatment for just five days and he was in the hospital altogether 24 days. When he was discharged, his blood-sugar level was normal and his urine sugar-free. Ever since that time, which is now well over a year ago, every test with but one exception has shown a normal blood-sugar, and this has been accomplished by diet alone. This is a good illustration of an early functional case in which most of the insulogenic function was regained. As time

goes on, we should be able to maintain this improved condition; however, I feel that an entirely normal status can never be regained. Consequently, it is quite necessary to keep such a case under close observation in order to bring the patient safely through the early years of childhood.

Another case which illustrates the importance of even a slight rise of the blood-sugar is that of a physician, 58 years of age. In August, 1921, his fasting blood-sugar was 132 mg. per 100 c.c. and there was no glycosuria present. No treatment was instituted and two months later the urine was found to be sugar-free. However, in November, 1926—nearly five years later—he was found to have glycosuria and a blood-sugar content of 199 mg. per 100 c.c. four and a half hours after eating. One simply cannot afford to disregard slight rises in the blood-sugar, if he wishes to protect his patients from the development of frank diabetes.

Let us consider for a moment the evolution of diabetes: It starts as a functional diabetes, namely, a condition in which the cells of the islands of Langerhans are not destroyed, but are merely functionally inactive or hypoactive because they are swollen and vacuolated and contain granulations. In this stage the production of insulin is below normal and thus the blood-sugar rises and the urine is apt to show sugar. If we lift the burden at this stage by proper diet or by diet and insulin, the islands return to normal—at least partially, and begin again to secrete insulin. Consequently, the permanent reduction of diet in such a case needs to be slight. On the other hand, if we do not reduce the load at this stage, then the injury already suffered by the islands increases to the point of destruction and they cease to secrete insulin. Only those islands which are left functionally active can secrete insulin; so the total amount of insulin produced is far below normal, and the patient's condition becomes one of severe diabetes. It stands to reason, then, that we cannot afford to lose valuable time, but at whatever stage we get the patient, we must start treatment at once in order to preserve as many of the islands as possible.

In these cases, as we have said, glycosuria may or may not be present, and they will repeatedly present a normal fasting blood-sugar level. The only obvious abnormality which they do present is a blood-sugar level above 120 mg. per 100 c.c. from two and a half to three hours after a meal.

This is not a normal finding, for in a normal individual the blood-sugar level should be normal from one to two hours after a meal. If a glucose tolerance curve is made in the case of these patients, even though the fasting blood-sugar is normal, the curve goes higher and stays high longer than it does in the case of a normal individual. An example of this is shown in Chart 2. I have always interpreted such curves as evidence of a pre-diabetic condition and consider the underlying physiological condition to be an inability to secrete sufficient insulin to cope properly with the problem of carbohydrate

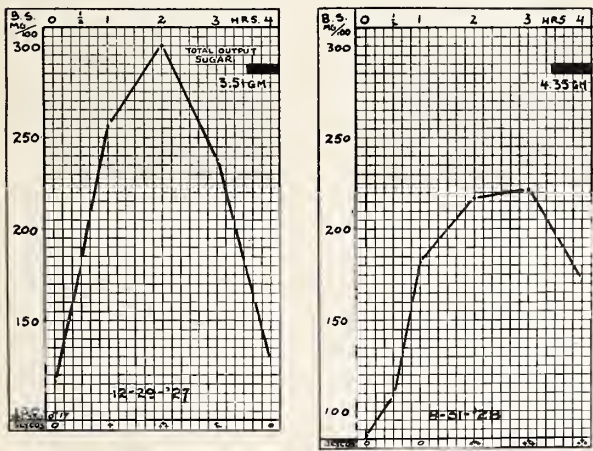


Chart 2

Curves charted from two glucose tolerance tests made at an interval of eight months in the case of a boy 17 years of age. The first test showed a mild diabetic condition and the patient's diet was somewhat restricted. Although the fasting blood-sugar value was normal at the time of the second test, the test showed that the pre-diabetic condition was still present and that restriction of diet was still necessary.

metabolism. As stated above, I have applied to these patients the term "pre-diabetic", for I feel that psychologically such a term has a good effect. It conveys something definite to the patient, who is more likely to watch his diet and to report for a periodical examination than if he were simply told that there was a slight abnormality of the carbohydrate metabolism.

I feel, therefore, that these patients are on the road to diabetes if they are not diverted from it in time by a slight regulation of their diet. However, I am not yet ready to give a final judgment in this matter. I have been making repeated glucose tolerance curves once every two years, in cases of this type, and have been keeping the patients under observation. I feel that in a decade or so, ample material will be available from which to draw definite conclusions.

At present I feel that a cautious regula-

tion of the diet, that is, the prevention of over-eating, particularly of carbohydrates, is the proper and judicious procedure in these cases. It is not, however, a justifiable procedure to withhold insulin from a patient early in the disease just because he can get along without it, and then to give it to him later in large doses because in the meantime his condition has been much aggravated. It is nothing short of folly to show that one can keep a diabetic patient sugar-free on diet alone, when this diet is so low that no one could work on it. We must restore the patient to a condition in which he can be productive and can lead a life as nearly normal as possible, and that means that he must have a diet of from 1800 to 2500 calories. If such a diet alone keeps the urine sugar-free and the blood-sugar within reasonable limits, then all is well and good; but if not, then with all the treatment we have not accomplished an iota of good so far as the patient is concerned. It is better to give him a livable diet and enough insulin to consume his food, than to let him merely vegetate. We used to have to let patients with severe diabetes do just that before the discovery of insulin, but that period is now over. We can restore them to their offices and their jobs at "full production capacity", and that is the real test of any treatment.

There are certain conditions which are prone to be accompanied by diabetes and when a physician sees such a condition, he should be particularly mindful of this possibility. These conditions are as follows:

1. *Obesity.* We must bear in mind that about 95 per cent of all cases of obesity are of exogenous origin, that is, they are due to overeating. Obese individuals are usually very fond of carbohydrates, which throw a heavy load on the pancreas. If that organ chances to be weak, it is apt to break down and diabetes results. Not all fat individuals are diabetic, but a large proportion of them are on the road to diabetes. In the small series of cases of obesity which I reported in 1927, the incidence of diabetes was about 42 per cent and other authors have published similar observations. This is too high an incidence to be disregarded.
2. *Hyperthyroidism.* Hyperthyroidism often occasions a rise in the blood-sugar level, which in turn produces glycosuria. No longer do we disregard glycosuria accompanying a condition of hyperthyroidism, but try to discover whether it is of a transitory nature or whether it is diabetic

in origin. I have seen cases in which glycosuria was disregarded and these patients have returned later after an entirely successful operation, suffering from frank diabetes. It is true that some of these patients escape, but others do not. Our problem is not to miss this early stage of diabetes, but by prescribing a proper and judicious diet and by the administration of insulin, to tide the patient over the critical

and without any instructions concerning dietary restrictions necessary in diabetes. Consequently, her family physician prescribed a high caloric diet in order to help her regain her weight. The patient returned four months later in a condition of frank diabetes, the blood-sugar level being 496 mg. per 100 c.c. and with pronounced glycosuria. She then had to be treated for diabetes. Such a case as this convinces us that we cannot afford to disregard the presence of glycosuria or a slight hyperglycemia in these cases of hyperthyroidism.

3. *Infections.* Infections often cause hyperglycemia. Why they should cause it in some patients and not in others, I do not know, unless it be that in the case in which we find hyperglycemia we are dealing with a subnormal insulogenic function. Be that as it may, when hyperglycemia is discovered, it calls for attention and can not be disregarded. Both the urine and the blood should be examined at regular intervals in patients suffering from infection. This is particularly true in the case of children, for we often find symptoms of diabetes shortly after an attack of measles, mumps, scarlet fever or tonsilitis. I feel keenly that the urine of every child who has had one of the above-mentioned infections should be examined once a week for at least three or four weeks after the attack, in order to safeguard the child.

4. *A familial predisposition to diabetes.* In families in which one or both parents or grandparents have or have had diabetes, one should ever be on his guard in respect to the children. A urinary examination alone is not sufficient precaution. Each child should be subjected to a blood-sugar test two and a half hours after a meal rich in carbohydrate. Such a test takes but a few minutes and there is hardly any other single procedure in medicine which offers so much information for the amount of energy expended.

5. *Pregnancy.* I wish to emphasize the importance of the finding of glycosuria in pregnancy, because it has not received sufficient emphasis in the literature. Glycosuria in pregnancy is fairly common. Usually it is benign glycosuria, but I have seen several cases in which it was due to diabetes, and in such a case it is extremely important that it be discovered in order that complications may be prevented. I feel, therefore, that whenever glycosuria is discovered in the case of a pregnant woman, a blood-sugar examination should be made two and a half hours after a meal,

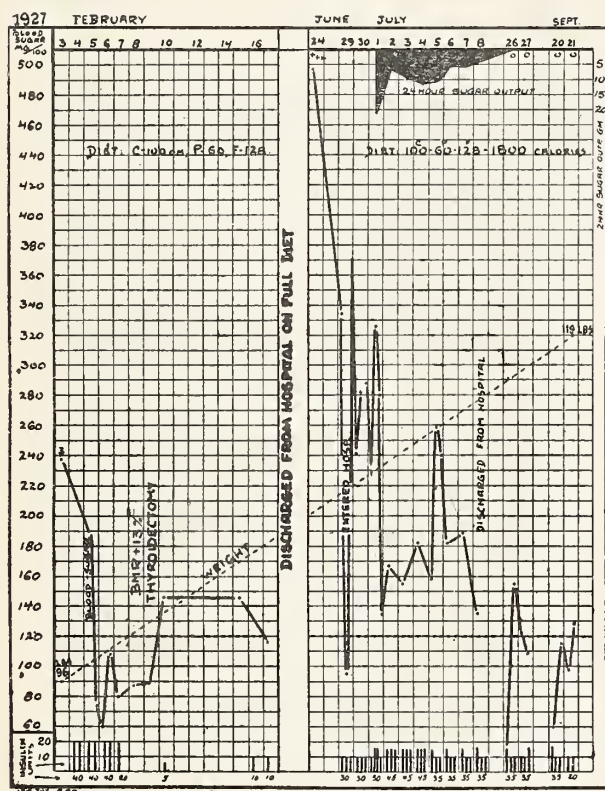


Chart 3

Chart showing the blood sugar values in a case of hyperthyroidism in a young girl 22 years of age. When the patient entered the hospital for operation there was only a slight elevation of the blood-sugar level, which quickly subsided on diet and insulin, and showed only a slight rise following thyroidectomy. Because of the apparent mildness of the diabetic condition, the patient was discharged on full diet. Subsequently the diet was increased and, as a result, the patient returned to the hospital four months later with frank diabetes.

stage and to restore the weakened insulogenic function to a condition as near normal as possible. Let me cite just one such case, that of a girl 22 years of age. When she came into the hospital it was found that she had a slight rise in the blood-sugar level (Chart 3). On a restricted diet and insulin, the blood-sugar level quickly became normal and it remained normal without insulin. After thyroidectomy it rose slightly, but came back quickly to normal. Because of this quick response, the patient was discharged from the surgical service with only the instructions given in the uncomplicated case of hyperthyroidism

and if glycemia is discovered, treatment should be instituted at once.

SUMMARY

1. Glycosuria, no matter how slight, should never be disregarded. One should ascertain at once whether it is a diabetic or a non-diabetic glycosuria.

2. It is in the early stage of diabetes that one has the opportunity to do the most good for the patient, or the patient's condition may even be improved. The diabetes can be kept in the mild stage with but little treatment and very little dietary restriction. These early or mild cases, however, should be under the surveillance of a physician and these patients should be examined periodically in order to determine whether or not the condition is being held in check. If it is found to be aggravated, more rigid measures of treatment must at once be instituted.

3. A slight rise of the blood-sugar level, either while the patient is fasting, or two and a half hours or longer after a meal, should never be disregarded, for often this slight elevation is the first warning that a diabetic condition is threatening.

4. In obesity, infectious diseases, hyperthyroidism, pregnancy, and in cases in which there is a familial history of diabetes, the possibility that diabetes may be present should always be considered, and if glycosuria is discovered in such a case, careful tests must be made to rule out diabetes and the patient must be kept under the closest surveillance.

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DISCUSSION

Dr. P. Marsh, (Detroit). The term "high fat", as Dr. Newburgh pointed out, was used to describe the diet following a period in which almost no fat was used. It was a high fat diet in contrast to the diets of the time when diets were developed. It doesn't matter whether one calculates a diet on the basis of Wiggat's formula, or on the basis of the formula that the Toronto group are using, or on Shafer's formula, or according to Wilder's charts. They are all high fat diets in the sense that we are using them. As Dr. Newburgh has pointed out, and as I want to emphasize, they are not just a lot of diets for the patients, but diets that are constructed on fundamental metabolic principles. When the diets were first proposed, it was insisted by the group who were using diets very low in fat that our patients would all promptly go into coma and die. Because of the investigations of the intermediary metabolism of the fats by such men as

Woodyatt, Schafer and that group, it was shown that that, of course, would not happen, and, in fact, the patients did not die in coma. It was then stated that the diabetic patients who were fed any considerable amount of fat would rapidly lose their glucose tolerance, it would become more and more severe as they were damaged by the fat. Fat is a poison to the diabetic. That has not happened. That could not be shown to be true in fat. The latest objection to the high fat diet is that the fat in the diet will cause arteriosclerosis. Dr. Newburgh has pointed out that Dr. Joslyn, for instance, has not been able to produce any evidence that that is true. He might have gone a little bit farther. He pointed out that the disturbance in the fat metabolism, particularly in the blood fats in middle age, does not occur. He might have gone a little farther and stated that there is no proof that even if such a hyperlipoidemia did occur, it would cause arteriosclerosis.

It is true that the feeding of large quantities of cholesterol to animals will damage the media of the arteries. It does not, however, introduce anything like the arteriosclerosis of the diabetic. The burden of the proof is certainly on Dr. Joslyn.

After all, the final decision in the matter must depend on what happens to diabetic patients. I think it is true that the majority of diabetics in the United States now are getting 150 grams of fat a day or over. Certainly it has not been shown that arteriosclerosis is increasing among diabetics beyond what might be expected from the fact that they are living longer than they used to live before we had insulin. We certainly have not seen an increase in arteriosclerosis of that sort.

We have one young man who has been on the same diet for five and one-half years with insulin, and was on a very similar diet for a year before that, so that makes a little over six and one-half years, during which he has never taken less than 240 grams of fat a day. He now has a total lipid value in the blood of 800 milligrams, well within normal limits. Certainly in his case nearly seven years of large fat feeding (a very active young man) has not increased his blood lipoids, and he has no arteriosclerosis.

I think that until some seemly evidence is produced that the arteriosclerosis we see so commonly in diabetics is due to the fat in the food, we can't accept that criticism of a high fat diet.

Dr. George E. McKean (Detroit): If there is anything I don't know much about it is diabetes. I hate to admit that there is anything I don't know much about, but I am going to admit this very quickly. This most interesting question Dr. Newburgh has brought up and his beautiful work in his demonstration seem to be most convincing on his side of this question. Of course, the burden of proof does remain with those who contend that the high fat diet does produce arteriosclerosis. I don't think any of us know what does produce arteriosclerosis. The last time I looked over the literature nobody seemed to know. So I think we are rather lost on that point.

A great many diabetics truly have arteriosclerosis, and the percentage of diabetics with arteriosclerosis is higher than with the general run of patients. But to jump to that conclusion because of the high fat diet, either taken by the patient since it does effect to balance up his nutrition in that way, or when ordered by Dr. Newburgh or his followers, I think that is very hard to say and

is going beyond the limits. To say, on the other hand, that because there isn't an increase of lipoids in the blood on the high fat feeding that there couldn't be an arteriosclerosis from that high fat feeding is hardly conclusive either, I think. I am going to leave that subject with myself and with you to decide by future work of these gentlemen and by our own work to find what really in the first place might cause arteriosclerosis, and then to see whether there is another way of reaching the deposits in the vessels besides this high fat content of the blood.

The other paper, Dr. John's paper (I heard only two), was certainly a charming discussion of a much needed line of investigation, the pre-diabetic. I was more than interested in it, and I think it offers us a very good field for work. I think most of us, especially those of us who don't know any more about diabetes than I do, will do well to follow up closely the suggestions of our friend from Cleveland.

Dr. Merrill Wells (Grand Rapids): These papers have brought out several of the very interesting problems we see in a number of diabetics one meets every day. I was glad to hear Dr. Newburgh emphasize the importance of the fundamentals of diet alone. In connection with the influence of fundamental diets on changes that come to the diabetic, I feel that it is well for us to consider the normal individual and what the different proportions in our constructed formulas mean in the normal individual. After the war, I think it was generally understood, and the figures will bear it out, that from the standpoint of health education, and so forth that was disseminated through many thousands of men carried back to the home communities, that it has been shown that there was a definite reduction in the amount of meat consumed in this country and certain other countries. The leather manufacturers have recently advertised that fact. There has also been an increase in that period in the amount of sugar consumed in certain countries of the world. I think the point brought out by Dr. Newburgh, the effect of caloric feeding, increasing of calories in the storage of body fat, is a very important thing in that very connection. We can oftentimes increase the weight of an individual and produce very evident accumulation of flesh, and also show an increase in blood lipoids by the feeding of carbohydrates in addition to an average fat formula. Just as Dr. Newburgh has proved in the laboratory many times at Ann Arbor, conversely in our reducing diets when we may be called upon occasionally to balance up for people who are considerably overweight, many times we pay no attention to the fat content at all, or not nearly to the extent we do carbohydrate feeding in these diets to reduce weight and balance other things according to usual principles. So that point is very well taken, it seems to me.

In Dr. John's paper, and in his emphasis especially on the treatment of the pre-diabetic, I believe he has touched upon a very definite cause of considerable trouble in later life in some of these people because of the things we have overlooked.

At the risk of being called occasionally too fussy or too careful, we have made it a fairly general rule in our work to insist that the individual who shows more than a trace of sugar occasionally, or shows a trace only occasionally spend a few days in the hospital for tolerance determination and the balancing up and be given

perhaps a safety first program for later living. At that same time, we have the opportunity to pick up other little abnormalities and correct them by the removal of foci of infection and certain other simple procedures, errors that will make for trouble later. I believe, as Dr. John says, that that is a valuable service to any individual.

We too often meet the patient who has told, "Well, two years ago when Dr. So-and-So looked me over for life insurance he found a trace of sugar and he said if I didn't eat any sugar for a little while I would be all right." No tests were made to check up on those things. I believe that is a procedure that should be carried out as Dr. John says with a tolerance test, perhaps, and by simply checking with a simple alimentary tolerance test, urine and blood for a time.

The question that is brought up as a converse to that, perhaps, is another source of disadvantage to the patient in that in an attempt to feed certain cases a large diet for efficiency, some men, without studying the basal requirements of the patient and without constructing the diet, are prone to leave out certain items of food grossly and use a few units of insulin before meals. That, of course, is unjustifiable, I think, in every one's mind, and should never be employed.

The question of the return of tolerance in an individual, it seems to me, is not settled as far as we can judge on an accurate basis. Occasionally, clinically, we find a case in whom after a year's observation we feel that there is, to all appearances, a return of partial tolerance, or at least an increase in tolerance of glucose. Most of those cases have not been thoroughly studied at a period when the evidence could be forthcoming.

Continuous study in the hands of Dr. Newburgh and Dr. John and others where we try to check up those patients over periods of days with and without their insulin is, of course, going to bring out eventually the clinical evidence in this matter. In the meantime, we are between the fires of efficiency for the patient, his working ability, and what he does actually from a laboratory standpoint.

If you remember as long as fifteen or sixteen years ago, Bensley at the University of Chicago was staining the islands of Langerhans of the pancreas with special stains and noting the changes occurring there. Dr. Johns has mentioned the granulation and vacuolation noted. I have never seen a report, and perhaps we never will see a report of an absolute scientific check on such a case, but if we have a case in some well-equipped situation where an individual who has been on diabetic management for a considerable length of time meets death from some accidental cause or quickly otherwise, not subject to long infection or something of that sort, and the pancreas can be obtained and stained according to some of those staining procedures of Bensley, we perhaps would be able to find whether there had been an actual regeneration or re-establishment of function along with the changes from the development of granules, and so forth, or currents of granules. In the meantime, perhaps we can't get the absolute proof, but it is very rarely that we have a case clinically which seems to show.

Dr. Noel F. Shambaugh (Ann Arbor): In the reams of literature which have been written about the fine adjustments necessary in insulin therapy and the treatment of diabetes, I wonder if we are not prone to lose sight of certain fundamental principles which must be used in the

therapy of diabetes. Insulin has done for us a number of remarkable things, but one of the things which insulin has done for us is to, I think, discredit role of fats in the therapeutics of diabetes.

Fats have two extremely important biologic characteristics. In the first place, but one-tenth of the fat molecule is converted into carbohydrate, and in the second place, the caloric yield from fat is extremely high so that fat serves as an excellent medium for supplying calories to the diabetic. Not only has the experimental work shown that this is not an injurious procedure, but evidence rather points toward the conclusion that it is an innocuous procedure.

What is the advantage which accrues to us by the use of this regime? It means that a diabetic patient may be managed on a smaller insulin dosage if fats play a significant part in the caloric yield for that individual. This brings us to another important fundamental principle in the treatment of diabetes.

Diabetes is a disease which is poorly treated by making concessions to the patient; by concessions I mean a compromise in which the carbohydrate of the diet is materially increased above what a physician chooses to give. It has been our experience that if a patient is treated by the imposition of sharp restrictions, his course is better, perhaps, than if no restrictions were imposed. The more obstinate the patient, and the more important the patient, it has been our experience that the novelty imposed restriction is such a change that it may be made to operate psychologically for the benefit of the physician treating the case.

Dr. Don H. Duffie (Central Lake): I should like to ask two questions if I may. It is probable that perhaps half of the potential diabetics in the country are under the care of rural small town practitioners, men working alone, with no laboratory facilities, and they either are too lazy, or think they are too busy to do the conventional blood sugar tests. I wonder if Dr. John can tell us of any blood sugar determination even roughly approximate that is sufficiently simple which we country fellows can be induced to use.

The other question is: Where does Dr. Hess get his U-100 insulin?

Dr. L. M. Sadie (Detroit): I should like to ask Dr. Newburgh his attitude in high fat feeding in children. We know that in children where the frequency of infection is rather more noticeable than the chance of being upset by these infections, and coming nearer diabetic comas is rather more frequent, I should like to know whether or not he does really change or modify his attitude.

Also, I wonder whether Dr. Newburgh keeps the same attitude as he does in adults with the problem of growth in children, and when we serve their diet and see that normally they consume a considerable amount of carbohydrate and protein, whether that will promote their growth much more rapidly than in adults, and also his attitude with regard to the form of regular carbohydrate.

Dr. Hugo A. Freund (Detroit): I regret very much that I didn't hear all the papers and I extend my apologies to the essayists and to Dr. Newburgh. I want to say one word. I am in thorough accord, of course, with the high fat feeding. I think Dr. Newburgh has led the way

and shown us the value of high fat feeding. Of course, in occasional exceptions, low fat feeding must be begun, but I believe we can all develop in our patients a tolerance to high fat feeding eventually.

I also want to say a word regarding a ready clinical method which was suggested to me when this gentleman asked a question regarding laboratory methods, that is with reference to lipoidemia where the fat content of the blood can not be measured by laboratory methods, we have watched a condition among our patients which, I think, leads to very quick and ready clinical conclusion. About five years ago McCann described the lipemia retinalis, that is a condition of fat in the arteries of the retina due to an accumulation of fat in the blood when the lipid content of the blood becomes high. I believe if we are feeding high fats and are trying to raise not only the caloric intake, but the amount of fat our patient may take, a careful scrutiny of the patient's retina from time to time is a very edifying procedure. Not infrequently do we see changes, where there has been no change in the retina, soon develop, that is, the patient does not approach, of course, the severe grades of lipemia retinalis as seen in the outspoken case, but changes take place, a sort of whitish waxy appearance appears in the arteries of the retina which, as a rule, means that we are placing our patient on too high a fat ratio in the diet.

Dr. G. H. Wood (Detroit): It has been my privilege from the beginning to be in touch with Dr. Hess and listen to the discussion he has made on the higher strengths of insulin. It has been very interesting because he is really a pioneer in attempting a clinical study of the qualitative difference, if any, between the lower concentration and the higher concentration. It was assumed when the strengths of insulin were increased that when they doubled the strength, they simply divided the dose in half and no experimental work was done that I know of to prove the point.

Dr. Hess became interested about three years ago in the problem of simplifying the administration of insulin and considered that if we could have a hundred unit insulin it would be a very simple matter to measure the dosage with the insulin syringe. He procured some material and used it in the same proportions as other insulins and had two instant shocks. That raised the question of whether there was any qualitative difference. This study was started to attempt to settle this question. Of course, that is a subject which can be studied further to great advantage. I might say from my own limited experience, the only instant shock I have ever had in a patient came with a hundred unit insulin. I have had no shock with 50 unit insulin. The 50-unit is easily used by any physician who has been using 40-unit. The difference is only 25 per cent higher and you don't notice any particular difference in using 50 over 40 except that it is so much easier to read on the syringe. You simply take two gradations on your tuberculine syringe for 1 unit and it is easy to figure, every mark is a half unit.

I think Dr. Hess is to be congratulated on doing this work and keeping the close record he has on his patients and bringing to us something that will really simplify the administration of insulin both for the physician and for the patient.

Dr. D. P. Foster (Detroit): I certainly have enjoyed these three papers very much. I believe that that is a real step of advancement in regard

to having insulin dosage in 50-units. I believe in the 100-unit dose we are running into a little danger on account of the difficulty in measuring accurately such concentrated solution. That is the only objection I would raise to that. I was born and bred diabetically in Dr. Joslyn's clinic where Dr. Newburgh was and came out to the land where the bad boy finally landed. I want to bring one word from that camp in regard to the step which was made which I believe was an advance step, namely, the feeding of a higher fat diet rather than the no-fat diet. Dr. Joslyn's clinic is waiting for one thing, I believe, and that one thing is a report of ten-year results on this diabetic group which Dr. Newburgh and Dr. Marsh started in 1916. I think that that data will be of tremendous value to all of us to know and feel sure that these diets which were so unorthodox, could be fed and still have a patient live over the week end.

Another point I think that deserves emphasis is the fact that foods are coming more and more to be considered from their caloric value rather than from the kind of food. Dr. John's advice to his boy, "Don't eat sugar," followed by the advice, "Don't eat a lot of other kinds of food," is sound advice.

Two recent papers in Ann Arbor at the Biological meetings proved quite conclusively that fat would protect the body against excess nitrogen loss just as well as sugar, and sugar will certainly build fat in the body as rapidly as fat itself will, provided calories are equal.

There was one other point that seemed desirable to emphasize in Dr. John's paper, and that is a point that will prevent us from wasting a lot of energy in looking for diabetics. All fat persons who are over forty years of age certainly deserve sugar tolerance, and by some method that the man who is using it is familiar with and that he can accurately interpret. A large number of these patients certainly have what I prefer to call potential diabetes rather than pre-diabetes, because if they are properly treated they never will have diabetes, and certainly do show remarkable improvement in their feeling of well-being and the removal of symptoms which they never knew they had in the first place.

Another point which will lead one to test the right person is careful history taking. Sometimes we feel that there is no diabetes unless we have the cardinal signs of diabetes, the increased appetite, thirst, polyuria, weight loss and strength loss, whereas the side symptoms or the so-called complicating symptoms of diabetes may be present in a large number of these persons and never be recognized as such. The history of boils, of failing vision, of general pruritis, of bad teeth and recurrent infection, and tingling and numbness in the extremities which you will find in a tremendous number of persons who, before they were tested, you would never have suspected they had any such trouble as a blood sugar that was over normal.

Dr. Leonard F. Wendt (Detroit): I have had very little occasion to use the 50 or 100 insulin. Some men didn't know it was on the market. It has only been on the market a couple of years. It is true that insulins are quite equal in potency, no matter what the make of the insulin is. The insulin in the past was standardized by sending the various experimental bottles to six or ten different clinics, and then were tested on standardized patients. I took part in some of these

standardization tests, but I believe that the majority of men are using insulin of too great a potency, and I do not use it because it is a waste of material and it is very expensive. U-100 insulin is much more expensive than 40, and if you waste a drop of the greater strength insulin you are going to lose quite a few pennies.

In regard to the syringes, we make it a rule to teach our patients the dose of insulin in c.c.'s. We are well aware that while we might procure an insulin syringe for the patient at first, they are very apt to break those syringes, and when they buy the second or third syringe they are going to buy a c.c. syringe. Therefore, we make it a practice to teach our patients both ways of administering the insulin. There are no objections to the 50 or 100-unit insulin if you require it, but I believe by readjusting the diet such large doses of insulin would seem unnecessary. In regard to Dr. Newburgh's paper, I admire the doctor for coming here and defending himself. His method of treatment has been brought up to question by a few men. They have never produced any evidence that it is not a good diet, and he has shown today that the high fat does cause an increase in the lipoids of the blood, but that is due to the total calories. I have used the Newburgh-Marsh diet in various ways and at various times, and have had no objections to it whatever, except in some patients who refused to take a high fat diet. While we are a carbohydrate-eating people (you all ate more carbohydrates than you did proteins or fats this morning, and will do the same this noon and this evening), I have changed and have been trying to feed the patients as much carbohydrate as they can tolerate and still remain with the normal blood sugar. I believe I have found that a patient requires less insulin where the diet contains less fat.

I have no objections to the high fat diet, and the only reason that I don't use it is that I haven't the dietitians that Dr. Newburgh has to administer the diet.

In regard to Dr. John's paper, we have made it a rule lately in patients who come to us for diabetes (and they come at all hours) where we find a blood sugar anywhere from 130 to 150, to insist on a glucose tolerance test. Formerly, we thought that did the patient a great deal of harm, but in those mild diabetics who have a low blood sugar, I don't believe it does any harm, and thereby we discover a good many diabetic patients.

Dr. C. L. Hess (Bay City): With regard to the insulin shocks or insulin reactions, we did get insulin reactions, particularly with the higher concentrations, that is, the U-100. First, that was anticipated as the likely result, but after using U-100 insulin, U-50 and U-40 later, interchangeably, so far to date it is my impression that these insulin reactions which occurred came with the higher concentrations in those patients after a condition of coma, or in those patients who are on a reduced diet, apparently, those patients where the reserve of the body is not very high. In those patients, many of whom are calibrated and are on a rather staple diet, we did not get those reactions with the U-100, or at least up to date we have not had them on a considerable number of patients.

Where they have used insulin interchangeably over a period of several months, I have asked them if they have noticed a difference between the different strengths used, whether the higher doses

seem to have different effects as far as symptoms are concerned, numbness of the tongue, peculiarities of mental conditions, and other conditions which are usual symptoms for reaction. They all state that once they get stabilized they can notice no difference whatsoever. In one patient particularly whom we have been keeping on a reduction diet to reduce weight and to keep the weight below normal, we have noticed that the higher strength of insulin will produce insulin reactions much more quickly than the lower strength insulins. We are studying that question still further.

I think the higher concentrations under certain conditions certainly will produce a more reactive effect and leave more to these reactions.

In regard to the use of U-100 insulin, I don't recommend its use in preference to the others, but it is added to this series to get away from the volume or the size of the injection which is used. For the ordinary case requiring five to thirty units, the U-50 insulin is quite ample, but in those patients requiring large amounts of insulin or an amount over 30 units, 30, 40, 50 and 60-units, then in that classification we have used the U-100 insulin to keep down the size of the injection. It seems with a large size injection that the patients very quickly have a preference for U-100 insulin as compared with that of U-40 or U-50 insulin. They likewise say that in those on the treatment that they notice no difference large size doses where they have been stabilized in the effect or tendencies toward reactions.

I think U-50 insulin will cover 90 per cent of the cases or 85 per cent at least, and the U-100 insulin might be used in those cases that load up over night in blood sugar, have a high blood sugar before breakfast which is very difficult to keep down, and in whom the tolerance in the morning is not very high. In those cases the U-100 insulin helps those patients who enjoy a large breakfast and are in the habit of having had it for years and do not feel good on a small breakfast as compared to a large size breakfast.

I think that the air of the U-100 insulin is considerable where small amounts are given, that is, less than 30 units. When you get over 30 or 40 units, I think you can measure the amount certainly within 1 or 2 per cent air at the least. Of course, many diabetics have trouble with aeriosis which is a common complication, and I think it is advisable to have the syringe graduated so that the gradations are easily seen and in that way as few errors as possible will be made.

With regard to our experience with patients in computing U-40 and U-80 insulin is this: Many of them have never studied figures from the time they graduated in high school or possibly left the eighth grade, and after they have been away from that sort of mental calculations for fifteen or twenty years, they object strenuously to any mental calculations. They say, "I don't care how you compute this. You tell me how much I should take by showing me the marking on the syringe and I will take that." The minute you vary they become confused. They will usually call you up three or four times to verify the instructions you have given them, and finally convince themselves that you have given them the correct instructions.

Dr. L. H. Newburgh (Ann Arbor): I have been asked to discuss the use of the high fat diet in children. There are, of course, certain differences between the child and the adult. The great

difference is the much greater demand on the part of the child for calories. Perhaps the average adult is satisfied with 30 calories per kilo, whereas the child will need from 60 to 120, depending on his age. The younger the child, the greater the caloric demand. That means, of course, that only a few children will succeed in getting enough calories from a diet to grow and prevent glycosuria without the aid of insulin. We use the same type of diet, however.

The next question is the supply of protein for the child. The child needs more protein than the adult because he has to store a certain amount. Dr. Bartlett, who worked with us some years ago, has continued his studies in this direction and has found that about a gram of protein per kilo will be sufficient for the adult, two-thirds of a gram or a half-gram is sufficient. That doesn't make very much difference in the diet. It is only a matter of a few grams.

It is, of course, also true that the child is very much more liable to infection. We all know the effect of acute infections on the tolerance which, of course, tends to increase the liability to acidosis, but the problem remains the same. If the infection occurs something has to be done about it. That doesn't interfere with the principle, so we use the same principle.

Perhaps our best example at present is a child who came to us when he was about two and a half years old, and has been on this plan since before the insulin period, that is, about eight years now, and has grown normally. He has attained the average weight for his age, goes to school and conducts himself as a normal boy nine or ten. He gives himself his own insulin.

I should like, if I might, to have just a minute or two to say another word about arteriosclerosis. I think it is important, when we are trying to find out the relation between diabetes and arteriosclerosis, to keep in mind that there are two types to the question. The common type, the common diabetic type, the type which is associated with gangrene is a type which was originally thoroughly described by Monckeberg and which goes by his name and is a disease of the muscular tissue of the blood vessels (peripheral) and tends to include the artery, produces gangrene of the heart, and usually of the foot. That is the type which we all associate with diabetes. So far as I know, no one has ever found a relationship between that form of arterial disease and food.

The other type which is of interest in relation to diet, also occurs in the diabetic, the type that is sometimes called Gaul & Sutton, the type that we recognize in association with hypertension, retinitis, myocardial degeneration, apoplexy, the common type of arterial disease which we find in the large man over 45 who has hypertension and drops dead on the street. That type also occurs with diabetes. I suspect there that diabetes is a complication of vascular disease. Autopsies in such diabetics with hypertension show this same type of vascular disease, Gaul & Sutton type, in the arteries of the pancreas. So the question arises whether the diabetes there isn't quite secondary and is analogous to several diseases, retinitis, myocarditis, or Bright's disease, or what not, so that I think we have two quite separate programs. Before we get very far, the first thing to do is to sort out these two groups of people and begin all over again.

Dr. Henry J. John (Cleveland, Ohio): I shall try to answer Dr. Duffie's question regarding the problem of the treatment of diabetes for the man

out in the country or in the small town. You will have to remember that diabetes was very successfully treated before we had insulin, before we knew anything about blood sugars, before they had become a common property as they are today.

Take one of our greatest clinicians in the country today in the field of diabetes, Dr. Joslyn. It has been just recently that he has been doing blood sugars. It is a question of a very few years. When we cannot do the best thing, we do the next best thing, and that is the old teaching. If you can keep the diabetic sugar-free, you have done about 95 per cent of what anyone can do in the treatment of diabetes. That means that you will go back to the old urinary examination. There I should make only one warning, and that is, do not examine single specimens, when you have a diabetic on a treatment, but examine rather twenty-four hour specimens once a week, and you will soon know whether the sugar reduction (you don't even have to make a quantitative examination) is increasing, whether it is stationary or decreasing. If you can keep such a patient sugar-free, you have gone a long way

toward accomplishing what can be accomplished in the treatment of diabetes.

There are some short-cut methods of blood examination, these so-called micromethods, or others. I have never felt that they were quite reliable because several years ago it was my idea at that time to use these micromethods in children. At that time I ran a large series of bloods with the microstandards and the micromethod to see how it worked out. I felt that if a good technician who is doing good work consecutively checks up closely on blood sugars in the laboratory he is doing good work with the micromethod. But if there happened to be a different technician there would be discrepancies as high as 40, 50 and one or two 60 per cent, when using the micromethod. That is the danger of trying to go into highly specialized work which requires close control by a person who is trained for that particular thing.

I think you will do a great deal more harm than good in trying to run blood sugars in some such way if you are not equipped for it properly, or if you have no facilities for controlling your results.

CONTROVERSY AND PREJUDICE CALLED METHOD OF SCIENCE

Science, the search for truth, is advanced by indulgence in personal prejudice and scientific controversy properly checked by persistent self-criticism, Professor Edwin G. Boring, director of the Harvard Psychological Laboratory contended in his presidential address before the American Psychological Association. Prejudice and controversy are considered by Professor Boring to be symptoms of the same driving force that makes men invent and discover.

"The history of science is full of illustrations of the most violent and seemingly unreasonable controversy that have obscured the truth for long periods and only eventually led to established fact," said Professor Boring. "Mesmer's discovery of mesmerism (or hypnotism) is a case in point and much can be said in favor of Mesmer, who is generally disregarded as a charlatan. John Elliotson's rediscovery of hypnotism half a century later is a similar case where personal prejudice blocked the acceptance of discovery."

"Since science is supposed to seek the truth, it would appear that its efforts should be directed toward the elimination of bias and personal prejudice wherever these factors enter into the formation of scientific conclusions. However, it appears that the greatest scientists are often the most prejudiced in maintaining their personal views, and that the personal dynamic urge that leads to violent and personal controversy is also a symptom of the driving force that makes men

scientifically productive. This fact of dynamic psychology makes it appear at first as if scientific progress must depend upon individual prejudice and as if scientific truth therefore would always transcend the individual and become, after controversy, the property only of those who have not contributed to its discovery."

Professor Boring observed that all new scientific movements are controversial in their beginnings. At the start they are not positive but negative.

"Scientific psychology itself began as a reaction against philosophical psychology," he said. "The newest movements, like Gestalt psychology in Germany and behaviorism in America, exhibit mostly this negative side. Scientific movements are therefore great prejudices that sometimes stimulate progress and sometimes prevent it. The question arises therefore as to whether movements of this sort, which are generally looked upon as constituting the mile-stones in scientific advances, might not hinder progress as much as they encourage it."

The personal bitterness that hinders scientific progress will be removed, Professor Boring declared, as soon as the mental conflict essential to research is recognized and controlled. He advised psychologists to develop dissociation of personality so that after allowing personal prejudice to stimulate research, self-criticisms can be made to apply the proper checks.—Science Service.

IRITIS, IRIDOCYLITIS AND PROLAPSE OF IRIS IN MODERN CATARACT SURGERY

Iritis, iridocyclitis and prolapse of the iris in modern cataract surgery, its prevention and treatment, has been studied by Lloyd Mills, Los Angeles. It is his opinion that the treatment of the incision in cataract surgery until recently has been out of line with the treatment of all other presumably clean operative wounds in which the fundamental practice is full suture of the wound in order to prevent infection and to restore normal relations. The failure to suture these operative wounds of the eyes has been the greatest single

means of infection from without and of extrusion of the intra-ocular contents, with their serious inflammatory and visual sequelae. Covering of the wound by a narrow but complete flap of conjunctiva, formed during the incision, or performed, fully closed over the sclerocorneal wound and securely maintained there by an average of five sutures, placed with regard to individual wound peculiarities, is preventive of these disasters in modern cataract surgery.—Journal A. M. A.

THE SHRINE AT LOURDES

HENRY R. CARSTENS, M. D.

DETROIT, MICHIGAN

During a recent visit to various clinics of Europe, I took occasion to visit some of the older or otherwise unusual medical institutions of the continent. There are a large number of these which are of interest to the physician. Some of the hospitals are of great antiquity, either as regards the early establishment of an endowment or the actual age of the hospital buildings. One institution though of comparatively recent origin, offers much of peculiar interest to the medical man in another respect. This is the Shrine at Lourdes. The illustrations and the following brief notes are a simple recountal of what the passing traveller may observe, no attempt being made to discuss the medical aspects of the cures claimed for the waters of the spring.

Lourdes, formerly a sleepy provincial town of France, came suddenly into prominence some seventy years ago, and since that time has become world famed, now being the objective of pilgrims from every land. Charmingly situated in the valley of the Gave de Pau (a river about the size of the Huron at Ann Arbor) it lies in southern France near the Pyrenees, about twenty-five miles distant from the city of Pau, which is such a delightful excursion centre for the whole Pyrenees region. Its present population is about 10,000, but the number of visitors during recent years has run over 800,000 annually. These pilgrims come from all over the world and a large proportion of them are the sick and maimed seeking the miraculous healing effects of the water.

Illustration No. 1 gives a fairly good view of the region of the Shrine. In this picture you will note that the actual grounds, churches, etc., are in the upper right part of the picture. The buildings to the left are mostly hotels and similar buildings lying on both sides of one of the streets leading up to the Shrine. The business centre of the town lies below the lower part of the picture and in general resembles that of other small French towns. The grounds to the right form a charming approach and parkway to the Shrine and during the busy season are thronged with pilgrims. Unfortunately, I visited Lourdes in April, at which time there were comparatively few visitors. The greater number of visitors come to the city during the summer time, reaching the maximum in August. At times special trains are made up in various countries of the continent and the British Isles, bringing large

groups of pilgrims to the Shrine. These often include special hospital cars, staffed by physicians and nurses.

The history of the Shrine is very interesting and I transmit without comment a brief outline as given by the local historians. The story starts with the apparitions seen by Bernadette Soubirous. Bernadette, a rather frail child, was born January 7, 1844, of poor, though respectable parents. It was in 1858 when Bernadette was 14 years of age that she saw Our Lady of Lourdes.

The first appearance took place on February 11, 1858. Bernadette was playing in the valley of the river. You will note in illustration No. 2 that the valley of the river is quite low with fairly steep banks and bluffs. In the rock was one good sized cave which the inhabitants called the Massabielle. Bernadette was gathering sticks near this hollow when she heard a noise like a gust of wind, and looking toward the crevice in the rock she saw a "Lady" dressed in white with a rosary on her right arm, beckoning to her. Bernadette was frightened, fell to her knees, and tried to make the sign of the Cross, but her arm felt paralyzed and she was unable to do so until the "Lady" did so, and Bernadette finished her prayers. On later occasions Bernadette saw the "Lady" frequently, there were a total of eighteen apparitions. At first these occurred almost daily, but later less frequently, the last one taking place on July 16th.

It might be remarked here that Bernadette's education was very limited; she could neither speak, read nor write French, she spoke only the local Lourdes dialect, and all conversation was carried on in this tongue. At the various appearances, there took place more or less extended conversations. On the date of February 25th the "Lady" said, "Go drink at the spring and wash yourself there." Bernadette went to the depths of the cave, scratched with her fingers at the earth and a spring gushed forth. This is known as

* Dr. H. R. Carstens in the spring and summer of 1928 toured Western Europe in his automobile. He has seen a number of interesting places, one of which he here describes. Dr. Carstens was Chairman of the House of Delegates at the last annual meeting of the Michigan State Medical Society.



General View of Lourdes

Arch. du T. C. F.

the Miracle of the Spring. At a later date Bernadette was given the instructions, "Go tell the priests they must build a chapel here." On numerous occasions the girl asked the figure who she was, but never received any response until the date of March 25th, when she again asked the "Lady's" name. The "Lady" looked to Heaven and said: "I am the Immaculate Conception."

Bernadette's later life was rather short. She had always been a weakly child, suffering much from asthma. In 1866 the Bishop of Nevers suggested to her the idea of entering the congregation of the Sisters of Nevers, which she later did, taking the name of Sister Mary Bernard. She died April 16, 1879, at the age of 35 years. She was later canonized.

The first miracle was recorded as having taken place in 1868, at which time a quarry man used the spring water as a lotion, and recovered the sight of his right eye, which had been without vision for twenty years as the result of an accident.

About this time workmen canalized the spring and hollowed out a large basin. This has since been further rebuilt, so that only a very small stream of water is running in the cave itself, the larger part of the water flowing into reservoirs for use

in the baths, etc. The flow amounts to about 50,000 liters per hour.

The illustration shows very well the large basilica which was built over the cave in 1871. Below and to the front of this is the Rosary church, underneath are the crypt and numerous chapels. In the second illustration it will be noted that the pilgrim may either pass up the serpentine stairs to the church and chapels, or he may pass to the right on the walk which forms the embankment of the river, to the baths and the grotto. You will note a group of three arches. These are the entrances to the baths; a little further to the right (obscured in the picture by foliage) is the cave itself. The grotto is protected by a grill with doors so that the pilgrims may enter and pass through the cave. The main part is about twelve or fifteen feet high, about twenty-five or thirty feet wide, and extends possibly twenty feet into the rock. Directly above and to the right of the main opening is the smaller crevice in the rock where the apparition originally appeared. In this is now found the statue which was presented in 1864. Underneath are inscribed the words of the Virgin as uttered in the local dialect, "Que soy era Immaculada Councepcion." On the left wall of the main grotto are hung numerous crutches discarded by the lame who were healed by

the sacred water. In front and facing the grotto are several rows of benches.

It is unfortunate that in such solemn surroundings one must receive warnings



The Shrine of Lourdes

Arch. du T. C. C.

of human frailty. A somewhat incongruous note is struck by various signs posted in the immediate neighborhood, among which I noted the following (translated):

"Entrance."

"Offices."

"Sacristy."

"One is requested to preserve silence."

"It is forbidden to put your feet on the taps."

"Watch your pocketbook."

"It is forbidden to eat your lunch on these benches."

I was told that there is a medical committee which investigates and confirms

any cures which may take place. Visiting physicians have the privilege of participating in this work for purpose of confirmation. As said above, there were very few pilgrims at the time I visited Lourdes and I had no opportunity for noting any of the recoveries, of which so many have been ascribed to the sacred water. It is stated that in 1924 a total of 800,000 pilgrims came to Lourdes, of whom over 13,000 were sick, 15 confirmed cures were recorded. A number of medical reports have been published. A recent one* reports 20 cases in one year, including such conditions as peptic ulcer, cancer of pylorus, cancer of face, Pott's disease (three cases), pulmonary actinomycosis and tuberculosis, etc.

As there is such a tremendous floating population, the city is well supplied with hotels, and there is ample provision for the care of the sick in hospitals and rest houses. There are a very large number of religious institutions in the town and neighboring country; a Dominican Monastery (10 miles out), an orphanage for girls conducted by the nuns of Our Lady of Charity of the Good Shepherd, Carmelites, established in 1876, an Orphanage of the Sisters of Nevers, and many others.

I am sure that any physician travelling through the south of France will find it well worth while to spend a half day in the city of Lourdes.

* *Guerisons de Lourdes en 1926.* E. Duplessy. Paris, 1927.

THE DOCTOR AND THE WELFARE FUND

It has been brought to the attention of the medical profession by those putting on the Welfare drive that a small minority of Battle Creek physicians are not contributors to this fund, and, if possible, they would like to know why the doctors generally in the city are not supporting this worthy enterprise more generously.

First, let it be said, that there has been no collusion, and in reaching the decision not to contribute cash to this fund, each doctor has made up his mind in the matter independently.

There must therefore be some reason, quite generalized in its scope, to reach and touch so large a proportion of the profession as it has, when usually the doctor is among the first to come forward to do his civic duty.

The stock in trade of the doctor is his medical service. He has invested in an education, and has equipment, supplies, and automobile to keep up, and a family to support. A conservative estimate points to the fact that the amount of charitable medical service rendered to the poor of this city each year, by all of the doctors practicing here, is equivalent to at least half the amount of the budget being raised this year, or very nearly \$44,000. This averages about \$1,000 per year for each doctor. Now then when the poor need medical attention the doctor, in four cases out of five, attends to the case, and does not seek pay

till after the case has had his full undivided attention. Then it is often discovered that the case is one that cannot pay. It may be a night call to see some sick baby, or the care of a diphtheria case, or a broken leg of the only wage earner in the home, or whatever it is, the doctor is supposed to give his service and does so cheerfully. The doctor usually renders his service first, and his bill afterwards. But in many cases the pay is not forthcoming.

Not so with the merchant. A stranger comes to his store for merchandise, dry goods, clothing or groceries, and unless he pays cash for his goods they are not turned over to him. If an urgent case needs groceries or fuel, the coal dealer or grocer is paid at usual prices for his goods, by the county or some welfare organization. If the doctor cares for a county indigent case, he only gets 50 per cent, often 25 per cent, and in many cases he gets nothing.

The discrimination against the doctor in paying him little or not at all, when the grocer or coal dealer is paid the prevailing prices for his goods creates a feeling among physicians that they are being duped, and in view of some of the above conditions the doctors evidently feel just a little reluctant about co-operating with a system which discriminates against them.—Bulletin of the Calhoun County Medical Society.

RABIES—A SYMPOSIUM—CLINICAL ASPECTS*

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DETROIT, MICHIGAN

My attention was first called to this disease about twenty-five years ago, through the occurrence in our midst of a case, (which, of course, ended in death) in the practice of a well known veterinary surgeon of this city, who was himself the victim of the disease. He was the brother of one of our best known surgeons of that day. Bitten by a horse in the course of his practice, he paid no attention to the bite beyond giving it ordinary medical antiseptic care; did not suspect the nature of the trouble in the animal which finally succumbed; and, only after the lapse of many weeks, was himself stricken with the disease, which he was able to diagnose at once and from which he died the horrible death of hydrophobia a few days later.

Twenty-five years ago, the so-called Pasteur treatment for rabies was just coming into vogue, although Pasteur had presented a thesis upon the subject before the Academie de Sciences in France in 1886. Needless to say, in this particular case, the Pasteur treatment was applied, and an intense study of the case was made by numerous physicians, but failure of the treatment at a date so remote from the original injury was only to be expected. I may interject here this thought. Most observers feel that the commencement of the Pasteur treatment later than four days after the bite of a rabid animal greatly increases the possibilities of non-success.

Since that time, my attention has been directed to this subject at varying intervals through my association with laboratory men, veterinarians, and Public Health workers, to all of whom I owe much. From them, I have learned practically all that I know of this disease, the ordinary physician being entirely ignorant of the whole matter.

I may diverge here from my original thought by quoting to you a few extracts which I fancy most of you have disregarded, but which to me were suggestive. They come from both the lay and the medical press, and illustrate the widespread character of this disease, despite the fact that comparatively few now die from rabies.

For instance, in the magazine "Time" of last July 23rd, 1928, the report is given of 19 deaths in Chicago from hydrophobia during the previous ten months. For eight years previous, not a single death had occurred in that city, but, an epidemic springing up, (as it has a disposition to spring up or to flare up at intervals throughout the world) in the ten months mentioned above, over 1,000 Chicagoans had been bitten by rabid dogs, and, of that

number 19 died. The Journal mentioned comments upon this by saying, "Never before has there been such a situation in Chicago or any other large American city."

The Detroit Free Press of August 23rd of this year 1928, reports a well known veterinary of Ohio who was accidentally, and, on his part, unconsciously affected by a dog which was not known to be rabid. He died six months later, the usual horrific death of hydrophobia.

Reports of the American Public Health Association for 1927, state that this disease, which before the war had been under satisfactory control in Europe, became widely prevalent after its close, and continued to increase for five years. In the United States, it has been more or less epidemic throughout the country ever since the war, and is only now beginning to be brought under reasonable control by public health measures. According to public health officials, an epidemic which started in southern Illinois in 1923 came to its peak in the vicinity of Chicago in 1927, when, as I said before, 19 Chicagoans died in one year from it. From Illinois, it spread to the adjoining states, and Michigan, as you will undoubtedly hear later from some of the other essayists, has had its share of the disease.

One might add a further word of apology for a presentation of this comparatively rare clinical entity, by the remark that anyone who has seen a case of rabies, and studied its victim throughout the days of torture and horror of impending death, must feel that the sum of mental suffering involved in but a few of such cases is quite equal on the part of both the attendants and the victim to that endured in a multiple of cases from other well known diseases.

Historically, this disease is at least as old as the fifth century before Christ. Democritus and Aristotle both write of it in the fourth and fifth centuries, B. C. Celsus speaks of it frequently at about the time of Christ, while the well known Latins, Ovid, Virgil, Horace, and Plutarch with the Hel-

* Presented before the Wayne County Medical Society, November, 1928.

lene, Xenophon, all refer to it in their writings. Among the moderns, John Hunter and Trousseau have written voluminously of it; while Youatt, the eminent British Veterinarian living about 1850, has devoted many pages to its discussion and to its study. As an aside, it is said that Youatt developed in some measure immunity to the disease, (being bitten six times without injury) but succumbing finally to the seventh bite. Strange to say no reference to this disease is found in the writings of Hippocrates.

In addition to the recent epidemic in Illinois, we have records of many other such epidemics. Greenland had one in 1860, Constantinople in 1839, and Washington, D. C. as late as 1900. Dr. B. J. Killham, state veterinarian, whom you will hear later, reported last year before the American Veterinary Association, that, while no rabies were reported in Michigan in 1922, in 1924 124 rabid dogs were located. He likewise reported that during the first six months of 1927, more rabies were encountered outside the City of Detroit than had previously been reported for the state at large since the beginning of its history. You thus can see that Michigan is not by any means untouched in this rabic danger.

To the veterinarians, the medical profession and the public owes much. They have been keeping the torch burning in the fight against this scourge, while the medical profession has done little to aid its veterinary cousin.

Logically, the disease should be chiefly in the hands of the veterinarians, inasmuch as rabid canine animals are particularly in their purview, and are much more common than rabid humans. They should receive the most unstinted help and encouragement from physicians, whose lives, whose work, and whose patients, they are guarding in their work against this disease of the lower animals. The methods utilized by the veterinarians will be referred to later.

As a final allusion to the wide spread character of this plague, and as evidence of the respect that it demands throughout the scientific world, I may here refer to the fact that the Health Committee of the League of Nations called for and carried through an International Conference on "Rabies" in Paris in April of last year. This conference was widely heralded, and at its sitting 57 delegates were present from 26 countries. Such widely separated and unexpected countries as Morocco, Can-

ada, Japan, Portugal, Serbia, China, Soviet Russia, the United States, and, of course, the various European countries, all sent delegates. The conference was important enough to claim for five full days the services of these representatives, of high repute in the scientific world (laboratory workers, clinicians and veterinarians). At the close of the conference, the conclusions of this formidable array of scientists were incorporated in a voluminous report of 170 pages, which makes most interesting reading to anyone concerned in the study of hydrophobia.

Historically and epidemiologically, we will have to be satisfied with this very cursory discussion of the subject, inasmuch as time and place will not permit of any further consideration of it.

From a public health standpoint, only commendation can be given to the public health service of our own energetic state and city boards of health. For the past several years these boards have been carrying on a campaign for the control of this disease in our canine population, and consequently in our human population. A comparatively recent enforcement of the state law regarding vaccination and revaccination of dogs, with the destruction of all unlicensed and unvaccinated animals, is much to be commended, and has done much to control the situation.

At this time, it might be well to interject a few statements, showing the value of public health control. England had 30 deaths from rabies in the years 1899, 1900, and 1901. She adopted then a rigid muzzling system for all dogs, and practically drove the disease out of the country, so that from 1903 to 1909, no deaths were reported in the United Kingdom from this disease. Prussia, in one decade of the last century, had 1,666 deaths from rabies. She likewise adopted a compulsory muzzling law and quarantine system, cleaned up the epidemic in a year, and is reported since then to be practically free of the disease.

It must be admitted here, of course, that the value of the vaccination of dogs for the control of this disease is still under discussion, but the final report of the Rabies Conference in Paris last year would indicate that vaccination stands only second to the muzzling of dogs in its value in the control of this disease.

Further discussion of this phase of the subject, I again will leave to my conferees who follow.

From a causative standpoint we know that the disease is always transmitted

through the saliva of the rabid animal or rabid human. Transmission by the latter is, of course, exceedingly rare. Due consideration, however, must be given to the historical fact that a reasonable number of contaminations have occurred from the latter source by accidental abrasions on the skin of the attendants of patients who were particularly violent in their hydrophobic mania.

As is well known, some patients show a most violent tendency, developing the maniacal form of rabies, while others develop the rabies so common in the dog, the "dumb form". Experimentally, contact and communicability are secured in the laboratory through injections from portions of the medulla of the infected animal or of the human. The virus apparently localizes itself almost entirely in either the salivary gland or in the medulla of the infected victim. The determination of the virus in the medulla of rabid victims by many workers in the last century, gave Pasteur his spur and his cue to the development of his epoch-making emulsion of spinal cords for the cure and prevention of this disease. A discussion of this phase of the subject will be left again to one of my esteemed collaborators. Suffice it to say that the world, both lay and medical, acclaims Pasteur and his work in connection with rabies as being monumental, marking a real step in its control.

Etiologically, we know that in North America and Western Europe humans are frequently attacked by rabid dogs, in certain parts of Europe quite commonly by rabid wolves, and in India by equally rabid jackals. The bite of the wolf and the jackal, by the way, are said to be definitely more serious than the bite of the ordinary dog, because these animals spring and bite the face rather than the extremities.

Of course, no two cases of rabies are entirely alike any more than two cases of typhoid fever or pneumonia can be. I have with me the reports of three cases, all of whom died in this city within the last few years. Two of them were contributed by my conferees in the Herman Kiefer hospital, and one I conducted myself through to its fatal termination. In order to save your time and to conserve space, I shall limit my narrative of cases to the one that I cared for myself. This, I think, is reasonably typical, and will give a very clear idea as to the ordinary symptomatology of the disease.

I may say here that I have a fourth case

report to which I may be permitted to refer for a moment. A boy aged 11, was bitten on the leg severely September 11th. The dog could not be traced and the boy was not treated with the Pasteur vaccine for 12 days. He then had 18 injections and died October 13, two days after the conclusion of the treatments. The case had been diagnosed clinically as rabies. Autopsy disclosed no Negri bodies in his brain, but positive findings of poliomyelitis.

This last report is introduced to show that rabies is not always as easy to diagnose during life as some have believed and taught.

Post mortem findings, however, seem definitely dependable, what with vascular changes in the brain, the presence of the so-called Negri bodies, and the findings from animal inoculations.

On February 13th last, the patient, Mrs. J. L., a widow and a nurse—age sixty years, 5 feet, 3 inches in height, and weighing 138 pounds, was bitten by a rabid Collie dog on the left leg and the leg badly lacerated. An interesting feature of the case was the fact that this dog had been a family pet, was particularly gentle, had never been known to bite anyone before, and was particularly affectionate with the patient concerned. On account of a story of a rabid dog being in the neighborhood, this dog, who had been accustomed to running freely around the streets and fields in the suburb of Mt. Clemens, where the patient lived, was shut up in the yard and ultimately, for greater safety, tied in a kennel. He was very nervous under restraint, but little attention was paid to this phase. So far as the family knew, the dog had never been bitten by any other dog, either healthy or rabid. On going out to feed this dog on the date mentioned, February 13th last, the patient was furiously attacked by the animal, was knocked to the ground and her left leg badly chewed and lacerated from the ankle to the knee. The victim was just able to roll out of reach of the chained dog and so escaped further injury.

Even then, the fear of hydrophobia did not enter the case because the family felt that the dog had suddenly become maniacal on account of his unexpected and unusual restraint. Hence he was kept chained and under surveillance until the 17th, (that being four days after the attack), when he quietly died. The dog's head was then sent to the Pasteur Institute at Ann Arbor for examination, and the patient, who had been attended and well attended by a local

physician, was brought to Detroit. The various wounds on her leg had been thoroughly washed, free bleeding had been encouraged, and iodine had been thoroughly applied over all the injuries. Sutures then closed the torn flesh. The only criticisms that could be made of the treatment at all was the suturing of the damaged area, thus in a measure preventing free drainage and the non-use of nitric acid for cauterization. However, I think little criticism can be made of the handling of the case by the first physician as the patient was given otherwise every scientific care that medical science knew. Five days afterwards, she was brought to Detroit and I was called to see her. Even then it was not believed that the dog was rabid, but I insisted that, pending the report from Ann Arbor, immediate Pasteur treatments be commenced.

This was agreed to, and, on the next day, being six days following the accident, the treatment was commenced. She was given twenty-one doses of the Cummings Antirabic Vaccine, supplied as usual in batches of seven, by the well known local firm of Parke-Davis Company. There was no reaction from the vaccine, and she made an excellent recovery as far as the local injury to her leg was concerned. Neurologically the patient was, through all this period of three weeks, in a high state of nervous disquietude. She was an exceedingly intelligent, but a highly emotional woman, although the emotions were always kept well in hand. Despite this, she suffered greatly from sleeplessness and from apprehension.

She had worked for a time in the household of Dr. T. A. McGraw, Jr., of lamented memory, and had browsed a good deal in his library, acquiring a reasonably good knowledge of the symptoms of rabies. Hence, she was quick to pick upon various nervous symptoms, such as, numbness and tingling, particularly around the infected leg, as evidence of a threatened hydrophobia. I felt that much of her trouble was psychic, gave her much of my time for psychic treatment and reassurance, and clinched it all with heavy doses of nerve sedatives such as bromides. The result was unexpectedly good, and, in two months, she was entirely herself and went out of town April 21st, for a visit to some friends.

She returned two days later with symptoms of kidney stone in the left side, and with pains so extreme that she required almost heroic doses of morphia for three days. At the end of that time, the pain

gradually disappeared, and, for three days, she felt entirely well. Then she commenced to complain of some numbness of the left thigh, that being the injured side. Very shortly following this, dryness of the throat commenced and she said she was unable to swallow. Her throat was slightly congested, and a cold water compress was applied to her neck. Under this water treatment, she became so much disturbed and so wildly excited that the water was discontinued. She told me on my call at this time that she absolutely was unable to swallow anything, particularly liquids. However, realizing her emotional nature, I sat down beside her, talked to her quietly and gave her my assurance that she could swallow if she tried. On my insistence, she proceeded to take a reasonable amount of fluids and soft foods, but said to me afterwards, "That is the hardest thing you have ever made me do, and I did it to please you and to show you that I trusted you when you said that I could swallow." For the next few days, with reasonably satisfactory results, this suggestive therapy was carried out by the nurses and myself, and the patient took medicine and food with little difficulty.

The result of our ministrations made us suspect strongly the condition which the Germans characterize as "Lyssaphobia", meaning a false hydrophobia, due to emotional disturbance. She had no convulsions, and was not in any way violently disturbed. By this time, (the third day), she commenced to develop a frothy discharge from the mouth and throat, spitting constantly in a basin at her bedside. She continued to take her nourishment as before, but, although apparently strong and without any fever or any physical disturbances, she claimed that she was growing rapidly weaker. To us observing her, it seemed that her claims were not substantiated by the physical findings. Two days before she died, the bowels, which had been moving with considerable freedom, suddenly became obstinately constipated. The abdomen became extensively tympanic, and continued thus for two days, or until her death. All this time she was suffering with a progressive numbness and tingling of the extremities, both feet, legs and arms. She had complete control of her muscles, but was apparently weak upon rising or standing or moving about the room. Most of the time she spent in bed, part of the time sleeping, and part of the time ejecting the frothy mucous of which I have spoken.

The heart was strong; the pulse was good; and the general physical condition from the objective standpoint, outside the weakness, could be regarded as reasonably fair, except that she showed some respiratory paralysis during the last twenty-four hours of her life. Even then the attendants were in doubt as to the real nature of her trouble. The hydrophobia symptoms were so mild, and the emotional condition of the patient had been so severely disturbed, that it was felt that we might be even then contending with a case of false hydrophobia. She died, however, five days after the commencement of symptoms. The post mortem, which was secured through the coroner's office with some little difficulty, gave us, as you will hear later, the diagnosis of a true rabies.

This case, and the previous one, illustrate very well several points. In the first place, the difficulty of a differential diagnosis in personalities of the emotional type, with marked intelligence. Secondly, the differential difficulties in certain paralyses, as in the lad with poliomyelitis. Thirdly, the inefficacy of the ordinary Pasteur treatment in cases with severe laceration unless treatment be begun very early. The wide open avenues for the travel of the virus, as this case possessed, made the action of the vaccine nugatory. It is quite conceivable, judging by investigations on the part of numerous Pasteur Institutes that, had this patient been given a more intensive treatment at the end of the treatment by the ordinary Cummings' vaccine, we might have had a different result. Many observers have claimed a much more marked potency in the *live* virus, and a safe administration in the following up of the ordinary dead virus by such an intensive treatment. However, that is in the lap of the Gods, and the clearing up of this

matter must be left to future students and possibly to future generations. Of the two other cases which I have at my disposal—one showed a cell count of 221 on the Sp. fluid just before death, while the other showed a blood count of 23,000 white cells. We did no blood nor Sp. fluid examinations on my patients because of strong opposition on the part of the patient's friends.

I have said nothing about the pathology of this disease, as my friend, Dr. Amolsch, will discuss this at some length. In closing, I should like to emphasize the opportunities that all history, all observations, all knowledge, and all common sense, give us in the elimination of this disease in our western civilization. Judging by the reports, it would look as if the east, notably India and Morocco, had distanced us in a race for scientific control of this disease.

The experience of Great Britain and Prussia, which I have mentioned, and which has been duplicated by other countries since, would lead us to believe that the forced muzzling of dogs and the destruction of all street curs unattached and unclaimed would be of sweeping value. Public health certainly is in the saddle in this year of our Lord, and it behooves us of the medical profession generally to stand solidly back of public health control in this, as in other communicable diseases of this type. Our friends, the veterinarians, are entitled again to our admiration for their constant efforts at the control of this and similar diseases in the animal kingdom.

We physicians owe both these groups our aid, and it is not inconceivable to my mind that a great society like this could do much towards showing the world by its constant support of public health and veterinary measures that a practical elimination of this disease is feasible.

HIGH BLOOD PRESSURE SEEN AS RESULT OF MODERN CIVILIZATION

The high pressure of modern civilization is being blamed for high blood pressure. New evidence in support of this theory was found in a study of average blood pressure rates among natives of Africa.

"I think almost everybody who has been closely associated with the African native will agree that he very rarely can be described as living a high pressure existence," declared C. P. Donnison, late medical officer of the East African Medical Service, in *The British Medical Journal*. Mr. Donnison compared the average blood pressure of 1,000 healthy males, natives of East Africa, with the standard normal rates for white men at various age levels. Up to the age of 30 years, the rates agree approximately. After that the rates for whites continue to go up, while those for the natives decline. Mr. Donnison found from hospital

records that these natives had about the same ailments and diseases as white people, with the exception of those diseases associated with high blood pressure. Living conditions among the natives have undergone very little change within a number of generations, but such conditions among white peoples have been revolutionized within the last few generations. Mr. Donnison believes that adjustment to these changes is a factor in the increased blood pressure rates.

"I suggest that such differences in the evolution of the two races could be held responsible for the differences in their normal standards of blood pressure; in other words that the greater mental stress required by the ordinary European citizen in his everyday life, as a result of the tendencies of modern civilization, has had its effect upon the physiology as well as the pathology of the race."

RABIES—ITS ETIOLOGY, PATHOGENESIS AND PATHOLOGICAL ANATOMY

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Rabies in the human is interesting because of its relative rarity and because there remain several aspects of the disease requiring further elucidation. The great mass of information exists in the foreign literature and it will perhaps not be amiss to briefly summarize the major facts and ideas that relate to the etiology, pathogenesis and morbid anatomy of the disease.

It is well established that the active etiologic agent is a virus capable of filtration through a Berkefeld under controlled conditions of homogeneity, dilution and suction pressure. Gland virus is more readily filtered than is brain virus. Attempts to cultivate the virus removed from living brain tissue have not succeeded. The natural virus is propagated in the lower animals, with the dog playing the important role in dissemination. Evidence is accumulating to indicate the existence of strains, varying mainly in degree of virulence for various species. The laboratory, or fixed virus, is derived from natural virus and differs therefrom by acclimatization to the nerve tissue of a particular species, thereby acquiring a greatly enhanced virulence for that species while becoming attenuated in virulence for other animals, particularly man.

The demonstration of nerve cell inclusion bodies in rabid animals by Negri in 1903 established the rapid, accurate laboratory diagnosis of the disease. The recent International Congress on Rabies found itself unable to judge of the parasitic or bacterial nature of the microscopic structures present in rabid nervous tissue. Three major views are held regarding the nature of Negri bodies, namely:

1. Negri's contention of the specific parasitic character of these structures.
2. Prowazek's view that the inner granules of the Negri body represents the true parasites.
3. Amato and Lentz opinion that the entire structure represents a specific reaction on the part of the nerve cell protoplasm to the presence of the inimical micro-organism.

PATHOGENESIS

Passage of the virus along the peripheral nerves to the central nervous system is generally accepted as the mode of spread in the body. This view is supported by clinical and experimental experience. Section of the nerve above the level of inoculation prevents, or greatly delays, development of the disease. It has been shown that the action of the body fluids is inimical to the virus. Somewhat at vari-

ance with this generally accepted notion are the following facts: The virus is frequently present in the saliva three to five days before onset of symptoms, and, in animals spontaneously recovered from the disease, the virus may persist in the saliva for a period of two weeks after the symptoms have disappeared. The virus has been demonstrated in the blood stream and may pass through the placenta to the foetus. The spinal fluid has been shown to be infective. However, under the last two circumstances, large amounts of material must be inoculated, and the incubation period and duration of the disease tend to be lengthened, indicating diminished virulence of the virus.

PATHOLOGY

Statistics indicate that Negri bodies have not been demonstrated in about 20 per cent of cases of human rabies. Under such circumstances resort must be had to animal inoculation, or histo-pathological examination, to corroborate a clinical diagnosis of rabies. Review of the literature on the latter phase of investigation indicate the existence of four important alterations for which authorities have maintained pathognomonic character.

1. Golgi and Schafer stress the importance of nerve cell degeneration and hold that these alterations constitute the most constant and significant feature of rabies.

2. VanGehuchten and Nelis describe inflammatory infiltrative and proliferative changes, associated with nerve cell degeneration in the cranial and spinal nerve root ganglia. These authors maintain specificity of these alterations in rabies.

3. Babes stressed the character of the inflammatory infiltration in the brain and spinal cord, ascribing diagnostic significance to focal aggregations of lymphocytes and glia cells about damaged nerve cells. These foci constitute the so-called "rabid tubercles"!

4. More recently, Krinitsky stressed the importance of the anatomical topography of the inflammatory lesions, showing that the Medulla, Pons and Mesencephalon were the sites of the intense inflammatory infiltration.

Exception to the specificity of any of these lesions have been made and well maintained. It appears, however, that the association of all these alterations constitutes a lesion complex quite typical and characteristic, and may reasonably form the basis for the histopathological diagnosis of rabies.

Three cases clinically diagnosed rabies have occurred during the past 15 months in Detroit. We desire to summarize the alterations occurring in these cases, in none of which could Negri bodies be demonstrated in the human brain.

Case No. 1.—A boy was severely bitten on the face and lip by a dog proven rabid. Anti-rabic treatment was begun 12 days following exposure and the series was completed. The incubation period was 28 days. Duration of the illness was 5 days.

Pathologic findings: Suffused red coloration of the entire grey substance of the brain and cord. Microscopic examination: The fifth and tenth nerve root ganglia showed slight lymphocytic cell infiltration and chromatolysis of ganglia cells. There was a marked inflammatory infiltration in the grey substance of the spinal cord, medulla, pons and mesencephalon, the reaction being most intense in the medulla beneath the floor of the fourth ventricle. Perivascular infiltration, formation of cellular mantels in the endolymph spaces and proliferation of endothelial cells in these spaces featured this alteration. Rabic tubercles were developed about minute capillaries and damaged nerve cells. The cortical and subcortical grey tissue was not infiltrated, the chromatolysis was present. Other visceral changes were negligible.

Case 2.—A woman, about 60 years old, was severely bitten on the leg by a dog which was proven rabid. Anti-rabic treatment was begun 6 days later and completed. The incubation period was 73 days. Duration of the illness was 4 days.

Pathology — Inflammatory infiltration was absent in the cortical and subcortical grey, but was pronounced in the medulla, spinal cord, pons and mesencephalon, particularly beneath the floor of the fourth ventricle. The process was characterized by marked congestion, dilated endolymph spaces which were engorged with lymphocytes and hyperplastic endothelial cells.

Aggregations of lymphocytes and glia cells forming rabic tubercles about damaged nerve cells was quite marked. Other visceral changes were negligible.

Case 3.—A child was bitten on the ankle by a dog which was destroyed and not examined. Anti-rabic treatment was begun five days later and completed. Illness ensued 7 weeks following the bite and lasted 4 days. The disease was characterized by flaccid paralysis of the lower limbs. There was no hyperaesthesia, no pharyngeal paralysis, no cerebral excitation and no salivation. Two guinea pigs inoculated subdurally with brain tissue from the child did not develop rabies.

Pathology—The cervical spinal cord and lower levels of the medulla showed inflammatory infiltration involving the anterior horns and the motor areas beneath the floor of the fourth ventricle. The infiltration consisted of plasma cells, lymphocytes and some polymorphonuclear leucocytes. The nuclear stroma was degenerated. There was no endothelial cell proliferation in perivascular spaces and no rabic tubercles were formed.

The clinical features of the case, the inability to produce rabies in experimental animals, and the qualitative and regional difference in the inflammatory process tend to classify the disease as anterior poliomyelitis with bulbar involvement. The history of dog bite and anti-rabic treatment were incidental conditions.

CONCLUSIONS

In rabies the essential lesions are as follows:

1. Infiltration and nerve cell degeneration in the cranial, spinal and sympathetic ganglia.
2. Profound chromatolytic alterations in the nerve cells throughout the brain and brain stem.
3. Profound inflammatory infiltration in the cervical spinal cord, medulla, pons and mesencephalon. Absence of infiltration in the cortex is the rule.
4. Formation of perivascular cellular mantels with proliferation of endothelial cells in the endolymph spaces.
5. Focal aggregations of lymphocytes and glia cells about degenerated nerve cells; the so-called "rabic tubercles".
6. These alterations are characteristic but in no sense specific. The basic laboratory diagnosis must rest upon the demonstration of Negri bodies and animal inoculation.

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A NOTE ON THE METHODS OF PRODUCTION OF THE VARIOUS TYPES OF ANTIRABIC VACCINES*

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DETROIT, MICHIGAN

Pasteur and his co-workers in the brilliant researches which led to the perfection of the first means of preventive inoculation against rabies found that the causative virus was most prevalent in the central nervous system.

On account of the irregularity with which street virus produced the disease they endeavored to stabilize its activity by a succession of passages through monkeys. This method was discarded on account of the high cost of the animals and because the virus became very much attenuated. Using rabbits, it was found that successive transfer by subdural injection led to the exaltation of the virus for these animals so that it produced symptoms of the disease regularly on the 5th day after injection, followed by death on the 7th or 8th. Successive transfer did not alter the time of onset of the symptoms. On account of the regularity with which this virus produced symptoms of rabies in rabbits, Pasteur called it "fixed virus". This fixed virus formed the basis of his preventive treatment and also forms the basis of all modifications which are in use today.

Since the perfection of Pasteur's anti-rabic vaccine modifications have been made by various workers, the more important ones being as follows:

ORIGINAL PASTEUR METHOD

After rabbits have died from fixed virus infection the spinal cords are removed and suspended in sterile bottles containing caustic potash. By drying the cords in this manner for varying periods of time up to 14 days, different degrees of attenuation of the virus are obtained. The first dose of the treatment consists of an emulsion of cord which had been dried 14 days. The nerve tissue in the last (21st) dose was dried only one day.

According to the Hygienic Laboratory scheme of treatment the first dose was made up of cords dried only 8 days, the last being dried only the one day as in the original scheme.

HOGYES METHOD

Hogyes held the opinion that drying the cords of fixed virus rabbits according to

Pasteur's method resulted in an uneven attenuation of the virus. He recommended a treatment in which the virus was unattenuated but in which a variation of dosage was obtained by using different dilutions of the nerve tissue in normal salt solution. Treatment of persons exposed to infection was begun with a dilution of one to ten thousand. The concentration of the suspension was increased as the treatment progressed so that the last dose consisted of a suspension of the nerve tissue in a dilution of one to one hundred.

In most cases, patients were treated with the two foregoing vaccines at the laboratories. When sent out from the laboratories for use by physicians, the nerve tissue was suspended in 20 per cent glycerine containing 0.5 per cent phenol.

SEMPLE METHOD

Sir David Semple, working in the Pasteur Institute of India believed that immunity could be produced with a dead virus vaccine as well as with one which contained the living but attenuated virus. He perfected a method in which the brains and cords of rabbits dead of fixed virus infection are emulsified in an 8 per cent suspension in normal salt solution containing 1 per cent phenol. After incubation at 37° C. for 24 hours this suspension is diluted with an equal volume of normal salt solution resulting in a suspension containing 4 per cent of nerve tissue and 0.5 per cent phenol. After sterility tests have been made and rabbits have been inoculated subdurally to determine that the virus had been destroyed, the vaccine is ready for use.

In this country this form of vaccine has been modified to the extent that the fin-

* Read before the meeting of the Wayne County Medical Association, Detroit, Michigan, December 4, 1928.

**From the Research Laboratories, Parke Davis and Co., Detroit.

ished product contains 2 per cent nerve tissue and 0.5 per cent phenol.

HARRIS METHOD

In the production of this vaccine the cords and brains of rabbits dead of fixed virus infection are dried in a vacuum at 18°C and ground. This was later modified by freezing the nerve tissue with carbon dioxid snow or liquid air, drying in vacuum and pulverizing. The dried material is then sealed in glass tubes and kept in the refrigerator until needed when it is suspended in normal salt solution immediately before injection.

The dosage is based on a M. L. D. which is the smallest amount of dried material necessary to produce death of rabbits from fixed virus rabies. Treatment is usually begun with an injection of 500 M.L.D. The amount is increased daily until the end of the treatment.

CUMMING METHOD

The brains only of fixed virus rabbits are used. When the symptoms of fixed virus rabies are fully developed the rabbits are killed by inhalations of chloroform. The brains are removed with aseptic precautions and ground with sterile quartz sand in sterile salt solution. The emulsion is then diluted to the proper density, strained through bolting cloth and formalin is added. After allowing the suspension to stand at room temperature for several hours it is placed in collodian sacks and dialyzed in running sterile water. A suitable preservative is added after which sterility tests are made on several kinds of culture media. In order to determine that activity of the virus has been destroyed, rabbits are injected subdurally with 0.5 c.c. each of the suspension and are held under observation for 15 days during which time they must remain normal. After these tests have been completed the product is ready for use. Two c.c. are injected daily for 14 or 21 days, depending on the location and severity of the bites.

SINGLE INJECTION METHOD FOR PROPHYLACTIC USE IN DOGS

Umeno and Doi perfected a vaccine, one dose of which is used for prophylactic immunization of dogs. As in the vaccines used in human medicine, fixed virus forms the basis of this vaccine. The brains and cords of rabbits dead of fixed virus infection are ground in a 20 per cent suspension in a solution containing 60 parts glycerine, and 40 parts water containing 1.25 per cent phenol. The final phenol content in this suspension is 0.5 per cent which is sufficient to attenuate but not destroy the virus after the holding at room temperature for two weeks or in the refrigerator 30 days.

Since the first recommendation of this vaccine, it has been modified to the extent that brains from dogs dead of fixed virus infection were substituted for those of rabbits.

Kondo has recommended a vaccine in which the brains of dogs dead of fixed virus infection are ground in a 50 per cent solution of glycerine in water, the solution containing 0.5 per cent phenol. Attenuation of the virus is obtained by incubation at 37°C for 3 days.

Dead virus vaccines are also produced by the original Semple method using dogs' brains and by a modified form of this method in which the nerve tissue content is 8 per cent.

Five c.c. of each of these various vaccines is recommended as a prophylactic dose to unexposed dogs weighing from 10 to 40 pounds. The immunity conferred is generally conceded to last about one year.

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TWO OUTSTANDING NEEDS ARE FAMILY DOCTOR AND RESEARCH

Man's two big needs are the family doctor and research, declared Dr. Joseph Colt Bloodgood of the Johns Hopkins University Medical School, at the Public Health Service conference on influenza. Man needs his family doctor when he is well to tell him how to safeguard his health. At the same time he needs research to enlarge the doctor's knowledge of the cause, cure and prevention of disease. Research however, requires money, stated Dr. Bloodgood, and the money for research

on influenza, infantile paralysis, cancer and other diseases of man should come from Congress. The present epidemic presents an opportunity for seeking a Congressional appropriation for such purposes, while public opinion is aroused by the actual presence of a disease which scientists have no known means of checking. Dr. Bloodgood presented to the conference a resolution petitioning Congress for more money for scientific research.—Science Service.

THE VETERINARY VIEW OF RABIES IN MICHIGAN*

B. J. KILLHAM

LANSING, MICHIGAN

In examining the records for the past six years, it is noted that rabies has developed from nothing to a widespread, everpresent menace. The report for 1922 makes no reference to rabies whatever. In 1923, the disease was just casually mentioned. The following year 124 rabid dogs were located and 18 townships and one county were placed under quarantine. From 1925 to 1927 there was a slight decline in the incidence of rabies, but during the present year more rabies has been encountered outside of the City of Detroit than had previously been reported for the state at large since the beginning of its history. Since January 1, 1928, 52 county dog quarantines have been placed. Some of these were renewals, but 34 different counties were involved. A county quarantine is not placed unless it is demonstrated that proven rabid dogs have been at large in the county and have bitten animals or persons.

Acting under legal authority, it is customary when rabies has been demonstrated, to place a quarantine for an initial period of 90 days. We no longer confine the quarantine restrictions to townships, but use the county as a unit. The earlier quarantines required that all dogs in the territory affected be muzzled, chained or otherwise properly confined on the premises of the owner or keeper. With the advent of the single injection vaccination and the favorable reports covering the use of this method of treatment, a change was made to provide for vaccination in lieu of restraint.

OBSTACLES

It is very probable that any rabies control campaign involving the dog as it does, will be confronted by all the obstacles presented by perverse members of the human family in other disease control projects, plus interference attributable to sentimental attachment to man's best friend.

Kennel Clubs, and so-called humane enthusiasts, have offered objections to vaccination and quarantine for reasons not entirely obvious. Cranks who can orate hours in behalf of the dog, but are apparently unconscious of the rights and privileges of the child, are all too numerous.

CONCLUSIONS

Briefly summarizing the rabies situation as it applies to Michigan, the following conclusions are presented:

The stray dog should be eliminated, of

course, but the human factor and not the dog is the most difficult to govern and anticipate, and much work of an educational nature is necessary to neutralize or bring about the control of the demonstrated vagaries.

Rabies, in common with many other infectious diseases, follows the lines of traffic.

The disease has developed from practically nothing to a condition involving 34 counties (nearly one-half of the state) in six years. Despite a dog law, city ordinances, rabies quarantines, certain responsibilities for the control of dogs placed upon counties, and average enforcement of the various restrictions, rabies has spread and is more prevalent than ever before in the history of the state.

There is no proof to indicate that the single injection vaccination as a prophylactic is not reasonably effective. A vaccination clause makes for easier and more complete quarantine enforcement. The outstanding objection to vaccination relates to the proper identification of treated dogs running at large.

The movement of susceptible dogs in automobiles must be checked if rabies is to be controlled. Data show that approximately 25 per cent of the tourists' cars contain dogs. If a dog becomes rabid enroute, it is almost sure to escape or be liberated.

Dog days are a delusion. Most of the rabies occurs during the late winter and spring. A seasonal decline is now in evidence.

The chief obstacles to rabies control are presented by perverse and unreasonably sentimental persons, kennel clubs, misguided humane enthusiasts, plain cranks, a very few physicians and veterinarians, and some "center of the road" officials.

* State Veterinary Department.

RABIES

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I have been requested to discuss rabies, particularly the treatment thereof, and I am very glad of this opportunity to do so.

Rabies, I believe, is even an older infection than Dr. Donald's history indicates. It is very probable that Aketon, son of Aristeus, died of rabies about thirteen centuries B. C.

Because of the long time that this disease has been recognized, because of its long period of incubation, because of the bizarre character of its symptoms, and its rapid course to a fatal termination, this disease has fallen heir to more superstitious beliefs and to more misstatements of fact than any other infection.

Rabies has been on the increase throughout the United States since the war and particularly during the past four years. This is tremendously unfortunate and is a discredit to our civilization for the control of the spread of this infection is one of the easiest with which we have to cope.

It is difficult and sometimes impossible to enforce proper restrictions on dogs because of the ignorance and carelessness of the public, and because of the shortsightedness and selfishness of certain organizations, chief among which are the "Kennel Clubs." These organizations claim to be interested in dogs, but are usually dominated by those members making money out of raising and selling dogs, or journals about dogs. These organizations have been the greatest obstacles to the enforcement of proper regulations.

All animals are susceptible to rabies. Dogs, because of their nature and their close association with man, are the chief means of infecting humans.

England and Australia have proven that the control of the spread of this infection among dogs stamps out the disease. Australia is one of the few countries that has been free from rabies. This is due to rigid quarantine regulations on dogs entering the country. England has definitely proven that properly enforced muzzling and leash laws are sufficient to stamp the disease

out of the country. But people must be educated to the need of such restrictions and to their efficiency.

The high tuition we are paying for this education is hundreds of human lives and thousands of dogs needlessly sacrificed to this dreaded disease.

When a patient comes to a physician as the result of having been bitten by a dog or a cat, cauterize the wound thoroughly with nitric acid. If the wound is anywhere other than on the face or head, direct that the animal be securely confined and observed for 10 days. It must not be killed. If the animal is normal at the end of 10 days there will be no danger to the patient so far as rabies is concerned. Should the animal show symptoms of rabies while under observation, start Pasteur treatments at once.

If the bite is on the face or head and there is rabies in the community, start Pasteur treatments at once and confine and observe the animal as above. If the animal is normal at the end of 10 days, stop the Pasteur treatments.

The reason for the difference in methods of procedure is due to the fact that the incubation period or period from time of exposure until symptoms of the disease develop in an average of three weeks in bites on the face and an average of seven weeks in bites on the body other than face or head. This incubation period in rabies varies markedly, the shortest recorded is eight days and the longest is three years. The Pasteur treatments should be completed, where possible, before symptoms of the disease develop, that is, before the virus reaches the brain.

It is very important for the physician to emphasize that the animal causing the wound must not be killed, but must be confined and observed for 10 days. If the dog has rabies so that it can communicate the disease, the virus must be present in its brain and after the virus reaches the brain the disease progresses rapidly to a fatal termination.

NEED MORE DOCTORS TO TREAT MENTAL DISEASES

A great shortage of physicians who are familiar with psychiatry exists in the United States, according to recent testimony of Dr. William A. White, superintendent of St. Elizabeth's Federal Hospital for the Insane, before the House Committee on Appropriations.

The number of physicians in the country, Dr.

White said, approximated 149,000, of which only 2,000 were thoroughly familiar with the treatment of mental diseases.

Against this figure, he put the fact that "there are 800,000 beds in all the hospitals of the country. Four hundred thousand, or one-half of these, are in mental-disease hospitals."—Science Service.

A STUDY OF 278 CASES OF GENERAL PARESIS TREATED WITH MALARIA AT ELOISE HOSPITAL, ELOISE, MICH.

JOSEPH E. BENNETT, M. D.*

I. L. POLOZKER, M. D.**

IRA M. ALTSHULER, M. D.***

More than two years have elapsed since the first case of general paresis has been treated with malaria at the Eloise Hospital. Although it is still premature to draw any definite conclusions, one nevertheless feels that a report should be made at this time, especially in view of the fact that our institution was the first in the state of Michigan to inaugurate Wagner v. Jauregg's method. It was a rather adventurous thing to get malaria blood, as there was no malaria patient in the immediate vicinity and a fresh specimen was needed. An aeroplane was sent to Mayville, Illinois, from where Malaria blood was brought. Our first patient was injected 3 hours and 15 minutes after the specimen was obtained.

That the remissions in general paresis have something to do with malaria has been noted a long time ago. The story is that a certain "generous gentleman" not knowing what to do with his swampy land, donated it for an insane asylum. Paretics, of this asylum upon contracting malaria, usually showed improvement. Since the introduction of malaria as a therapeutic agent in general paresis by Wagner v. Jauregg in 1917, numerous and interesting reports have appeared in our country as well as abroad. Although the first step towards this epochal discovery was made by Wagner v. Jauregg as far back as 1887, yet it has taken these many years to introduce his method.

Before the use of Malaria in cases of general paresis, various other remedies have been tried. Fevers have been artificially produced in the expectation of provoking remissions. Among other remedies were:—Autenrich's ointment, (Ungt. tartari stibiati, which was rubbed into the head), injections of tuberculine, typhoid, rat bite poison, staphylococcal vaccine, milk, etc. Until 1917, however, when Wagner v. Jauregg inoculated his 9 paralytics with malaria, the scientific world was very little informed of or interested in his experiments. In 1919 the savant was so well pleased with and convinced of the efficiency of his method that he soon made wide use of his treatment and also found enthusiastic support in others. At the present time no one questions the efficacy of the malaria treatment, not only from a standpoint of clinical improvement but also healing of old inflammatory processes. This

has been recorded from various sources. To quote "Hoche": "There is little doubt that the younger generation of physicians will be pleased to witness the time when general paresis will become a matter of historical interest."

It may be in place to briefly consider the pathological anatomy of general paresis, since our terminology still contains such terms as "softening of the brain," which one finds on hospital charts and occasionally in literature.

Little did the psychiatrist, Parchappe, who in 1838 spoke of "*ramollissement de la couche corticale*"², realize how much anxiety and discomfort his word "softening of the brain" would cause the laity and how much confusion it would create among physicians. It is the duty of the medical man to abandon this definition not only because it is false in a pathological sense, but also for purely humanitarian reasons. Patients and their relatives are actually driven mad when the physician mentions the word "softening of the brain."

The latter term conveys a message of hopelessness, which, in the light of our present day knowledge, is unwarranted. We now know that there is no such thing as "softening of the brain." Macroscopically one finds atrophies of the cortex, especially those of the frontal lobe, while microscopically there is a proliferation of the glia cells and loss of ganglia cells. (This process is especially noticeable in the frontal lobe and Insula Reilii). The blood vessels become tortuous and one finds perivascular accumulations of round cells—the typical "plasma cells," and iron pigment is found in the adventitial sheaths of the cortical vessels³.

One who wishes to experiment with a new remedy must constantly keep in mind the following maxim: "Primum non nocere". The next thing to be remembered is what should one expect: "quoad vitam and

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quoad sanatoinem." In connection with our problem a natural question arises: "What happens to a patient who is left without any treatment or to one who is treated with the usual anti-syphilitic agents?" As we know the duration of life of such a patient is approximately 21½ years from the onset of the first mental symptoms.

Spontaneous remissions, within a few days are known. However, such instances are rare and should not be taken into consideration, because of the inability to predict such a result. The histopathological picture in spontaneous remissions is entirely different from that caused by malaria treatment. In the former the inflammatory process in the brain remains stationary, while in the latter the inflammation disappears, and to some extent repair of the brain occurs⁴.

Although the mortality rate of those treated with malaria is still high, that of the untreated is almost 100 per cent. Thus it remains for one to use radical methods and console himself with the saying of Hippocrates: "For extreme diseases, extreme methods of cure are necessary."

In the use of malaria in general paresis one must not forget that results do not depend on treatment alone; the constitution and state of health of the patient should be taken into consideration, for a disregard of the latter always tends to increase the mortality rate. One must admit that it is exceedingly difficult to determine in advance the outcome of the treatment. Although one is compelled to be guided by general rules, certain points should always be kept in mind.

In our own experience senile or cachectic patients, those with extensive arteriosclerosis, or decompensated hearts, were considered as poor risks, however, the following case shows the fallacy of dogmatism. A patient, age 41, (case No. 21, Mr. R. O'B.) was admitted to this hospital in April 1926. Among other findings the report of the cardiologist was: aortic and mitral insufficiency, myocarditis, and enlargement of the heart. Recommendations: A very poor risk. As the patient and relatives insisted on his being treated, an inoculation followed and the patient made an uneventful recovery, soon returning to work.

The supervision of the patient during the illness is very important. Close watching of each complication and an immediate intervention is imperative. A nurse should be in constant attendance.

Much thought has been given to the action of malaria. It has been noted that parietic patients suffering from an illness in which the fever is high and prolonged (typhoid, typhus, etc.) not infrequently show great improvement or even a cure: the result was usually attributed to the sustained fever. Such a fever affects only the reticulo-endothelial system and can be of benefit only as a local stimulus to the brain cells proper. There are cases reported where cures have been noted without a rise in temperature⁵.

It is not likely that the spirocheta, which lies in the brain, is killed by the fever but the fever, perhaps, stimulates the nerve tissue, causing it to react. That the above reaction takes place in the brain only is evident from the fact that no similar reaction is observed in the spinal cord. Even under normal physiological conditions a difference of temperature in various organs exists. A center for the regulating of heat in the brain, although frequently mentioned, has never been found or placed, and some authors⁶, doubt the existence of such a center at all.

Putting the heat center on a throne, as Professor Sahli says, is not in accordance with clinical observations. The regulation of body temperature of each organ is a highly complicated process which is influenced by various factors, as for instance, the blood supply of each organ. The malaria (as well as the recurrens and typhoid fever) probably raises the temperature of the brain, which in turn, stimulates the reorganizing forces.

One more thing should be remembered that by injecting malaria blood, one not only injects plasmodiae, but also blood of highly strong potentiality.

Austrian writers of late raised the question of the contagiousness of paresis⁷. The spirocheta, as we know, is found in the brain; there is therefore a probability that it may coexist in other organs, and perhaps, in the blood as well. This has as yet never been disproven by animal experimentation. If that should be the case we also inject new spirocheta into the patient (by injecting parietic convalescent malaria blood).

Up until November 1, 1928, we have treated at our hospital 278 patients, (the youngest of our group being 17 years, the oldest 56). Among those were: 208 males; 70 females. Because, the treatment in the male and female department was conducted independently, we shall cite them separately. Inasmuch as the type (all ad-

vanced cases) of patients, principle of treatment and care were the same, one gets some advantage from such separate observations. Thus the total number of men was 208:—

Improved	68 (or 33%)
Unimproved	30 (or 14%)
Worse	1 (or ½%)
Paroled as completely cured.....	27 (or 13%)
Cured, but waiting to be taken home.....	5 (or 2%)

The mortality rate was as follows:

Death during treatment.....	25 (or 25%)
Death after treatment 1-3 mo.....	7 (or 3%)
Death after treatment 3-6 mo.....	3 (or 1½%)
Death after treatment 6-9 mo.....	4 (or 2%)
Death after treatment 9 mo.-1 yr.....	0 (or)
Death after treatment 1-2 yr.....	1 (or ½%)
Paroled as slightly cured, but returned.....	3 (or 1½%)
Paroled as cured, not returned.....	7 (or 3%)

The females were treated in 4 series:

SERIES NO. 1	
Number of patients treated	46
Number of patients died	11
Number of patients died during treatment	4
Number of patients died from 3-10 mo. after	7
Number of patients still in hospital improved	5
Number of patients paroled improved	8
Number of patients still in hospital slight improvement.....	11
Number of patients still in hospital unimproved	11
SERIES NO. 2	
Number of patients treated since September, 1927	10
Number of patients died during treatment	1
Number of patients convalescing from treatment	9
Total number of patients treated since May, 1926	56
SERIES NO. 3	
Number of patients treated	10
Number of patients died during treatment	4
Number of patients improved	4
Number of patients unimproved	2
Total number of patients treated	66
SERIES NO. 4	
Number of patients treated	4
Number of patients died during treatment	1
Number of patients improved	0
Number of patients unimproved	3
Total number of patients treated	70

Thus it reads:

Total number	70
Total number improved	23
Total number unimproved	30
Total number died	17
Number of patients paroled	9
Number of improved patients still in hospital	14

The fact that 41 patients have been paroled and can take care of themselves is not only a gratifying factor in itself, but is of economic value to our public institution. A great percentage of patients, (those who were not paroled) who remain in the institution can take care of themselves now, who were helpless before. In our treatment, in the beginning, we used the intravenous route to introduce the malaria blood. This avenue, however, proved to be dangerous. Intravenous injections of malaria, as a rule, caused a sudden, much more rapid onset, the course was more irregular and severe and the mortality high. We then began to use intramuscular injections, which proved to be less dangerous, showing a smoother and slower onset. The fever when developing

slowly gives the patient a chance to get accustomed to it. From 2-2½ ccm. of blood were used. According to Castellani and Chalmers⁸, the period of incubation of naturally acquired malaria (benign tertian) ranks from 9-12 days. The incubation period of artificially induced malria is somewhat different and varies with the method of inoculation. Intravenous, intramuscular, subcutaneous, or by mosquito bite, have various incubation periods. In our experience they varied from 7-27 days. In our cases malaria, besides causing elevation of temperature, rapid pulse, chills, and malaise, also produced vomiting, enteritis, herpes labialis, abscess of the scrotum, etc. The enlargement of the spleen was a frequent complication. The swelling of the spleen appeared as early as the 6th day and as late as the 16th day. The highest fever observed in our group of patients was about 107.8; the lowest 99.4. The chills lasted as long as 3 hours and 45 minutes and as short as 15 minutes. In the beginning we did not pay any attention to the number of chills unless some contra-indication to their continuance appeared, but in our series the number of chills ranged from 1-17. We could not see any relationship between the number of chills, height of temperature and the outcome of the treatment. Persistent vomiting, jaundice, heart complications, and sudden fall in the blood pressure, were always alarming signs and an interruption of the cure proceeded. As usual a complete medical, mental and serological examination preceded each inoculation. The diagnosis was decided on the merits of neurological and laboratory findings.

Our laboratory investigations included the following:—

SPINAL FLUID		BLOOD AND BLOOD COUNT	
Color—sp. gravity		Kahn	
Pressure		White	
Coll. gold		Red	
Mastic		Diff. Poly S. M.—L. M.—E.	
Globulin		Hg.	
Albumin			
Sugar			
Cell Count			
Kahn			
		URINANALYSIS	
Sp. gr.	Indican	W. B. C.	
Color	Blood	Crystals	
Sugar	Bile	24 hr. intake	
Albumin	Casts	24 hr. output	
Aceton			
BLOOD CHEMISTRY		RENAL FUNCTION	
Nitrogen		P. S. P.	
Sugar			
Uric Acid			
Creatinin			

Immediately after the end of the treatment the above examinations were repeated and check-ups made every 3 months. The reason for this procedure was to watch the changes in the cerebrospinal fluid, which usually occurs only after 4-6 months.

In Ferrato and Fong⁹, we find that the first thing which improved in the spinal fluid following the malaria treatment was the pleocytosis. The amount of cells were reduced within a few days following the treatment. It is not the same with the globulin, spinal Wassermann, and colloidal gold. The latter showed more resistance to the malaria treatment than any other spinal fluid reactions. We can confirm these findings as in our patients similar observations were made. The diminution of the cells in the spinal fluid indicates that the inflammatory process is subsiding and is a valuable sign. We recommend to watch for this sign, and periodic cell counts should be made regularly. Ferraro and Fong also attempted to find parallelism between the clinical and serological improvements. They failed, however, to see such a relationship. Our observations also coincide with their findings.

The relationship of a cure to the increase of body weight, as studied by Bunker, Jr., in which he claims that 80 per cent of the cured gained in weight, has not been investigated in this institution.

The first neurological improvement manifested itself in disappearance of tremor. The speech and co-ordination were also among the first things to improve. In order to be able to watch the changes in the mental condition, we divided our patients into A. B. C. groups, as accepted by Watson W. Eldridge's Committee¹⁰.

The classification into A. B. C. mental groups, however, did not prove to be very practicable.

If the patient was able to resume some

sort of work (not necessarily his previous occupation), behaved, was oriented, and showed interest in life and surroundings we considered him as mentally improved.

Lately, malaria treatment was also advocated as a prophylactic in general paresis. We do not, however, possess any experience along this field. At this time, may we be permitted to express our utmost thanks to Dr. Squires and Dr. C. Layton, for their faithful work and hearty co-operation in connection with this study.

SUMMARY

1. Malaria in the treatment of paresis is the best of all known at present, showing distinct healing tendencies in the brain cells.

2. Before a patient is submitted to treatment he must be physically adjusted, so that he can better stand the treatment, the care during treatment is of paramount importance.

3. The spinal cell count is a fairly safe indicator of the progress in the treatment.

4. The intramuscular route is the safest, the number of chills as well as the height of fever has no bearing on the outcome of treatment.

5. It is highly probable that neither the fever nor the malaria plasmodiae itself, but the reactivation of the old luetic process through the introduction of foreign parietic blood with the malaria, act (at an elevated temperature) as a definite curative agent.

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DIET EXONERATED OF CANCER BLAME

The theory that diet is a large factor in the development of cancer received another setback in the twenty-sixth annual report of the Imperial Cancer Research Fund just published. The director, Dr. J. A. Murray, stated that his colleagues have been unable to show any connection between malignant growths and dietetic deficiencies. Old rats or rats kept on diets deficient in vitamins A and B frequently develop warts and harmless tumors on the epithelial lining of part of the stomach, but no malignant tumor has ever been observed. In fact, there exists no trustworthy evidence, experimental, clinical or statistical, of a causal relation between cancer and the absence or presence or excess of any particular

dietetic constituent, Dr. Murray gave as his opinion.

While cancer is at its beginning a local disease, general resistance or susceptibility plays a part in the development of a tumor or its failure to develop. This is shown by the fact that multiple malignant new growths in a single individual are extremely rare, Dr. Murray pointed out. Also, the occurrence of tumors in males and females in different countries indicates that part of the people are susceptible to the disease, but that the actual place on the body at which it will appear depends on factors of race and environment.

—Science Service.

HYGIENE OF THE MIND*

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By hygiene of the mind we mean, frankly, the care and the protection of the mind. We are all thoroughly familiar with oral and dental hygiene—care of the mouth and the teeth, yet I dare say that there is in the memory of almost every one here that time when there was no dental hygiene other than extraction of the offending tooth—no tooth brushes and no tooth pastes. How now, with our skilled dentists and oral surgeons, periodic examinations and over-haulings? Is our mental health of any less importance?

In developing our theme, I must ask you to be receptive not only of explanations and directions for the care, the protection, and the conservation of the mind, but also of certain definitions and interpretations which will serve to give an understanding of the fundamental principles and resources involved.

To begin with, let us steer clear of the metaphysical and the old dualism, "mind and matter", not that it is not important, but rather that I choose today to adhere to that special reference resident in such every-day remarks as "he has a mind of his own" or "something wrong with his mind." Mind as such is the motive power within each of us. It is the dynamic expression of our daily activities. It is both individual and collective and is seen in you and me personally and in social group, community, state, and nation, also in mob, panic, revolt, and revolution.

Lest we think of the mind as something immaterial and intangible, let us accept it as a characteristic of our nervous system. In truth, mental hygiene or hygiene of the mind, resolves itself largely into the care and protection of our nervous system. Persons distressed by nervous or mental ills frequently remark, "Well doctor, if I only had something really wrong with me, that I could see or feel instead of this nervousness, it would be different." Let me assure you that the nervous system is not without substance. It is as truly composed of tissue with blood in it as is your heart and your lungs. The brain and the spinal cord with all their attached nerves weigh not less than six pounds, while the heart

with all its blood vessels—without the blood, of course—weighs only three pounds. Your nervous tissue has just as much right to get sick as your heart and circulation, and furthermore, illness of the nervous system, contrary to the general opinion, should carry with it no disgrace. A person with heart disease walks about without the need of a single excuse, and even, perhaps, with pride, but the person with nervousness is full of excuses and is inclined to sneak off in shame, unwittingly undermining his self respect to win that of the public. If he does not conduct himself thus, others think he should. The first lesson, then, that all must learn, is to realize that the nervous system is subject to ills and diseases just like the other systems of the body, and that such ills and diseases are not a matter of shame or disgrace.

But we must hasten to other fundamentals. To live, three essentials are absolutely necessary. First, we must have food—sustenance in its most all inclusive sense. Secondly, rest—not sleep alone but rest in its widest application. Thirdly, love. An actual essential? Yes, without hope of it, we would die as promptly as without water. Love has its origin in mating—in attraction of male for female and vice versa. Such being the case let us think of, and speak of love and sex with the open frankness and the unsullied sincerity becoming them and entirely bereft of conventional smirch and abuse.

The life of each individual male and each individual female is motivated by very distinctive primary inborn urges. There are two such basic urges and several secondary urges common to every living member of the human species—whether male or female. The most dominant urge is the desire to live, referred to by psychologists as the instinct of self preservation. The second urge answers the question, "Why do we want to live?"—to love and be loved. Psychologists refer to this urge as the instinct of race preservation, or the instinct

* Read before the Kiwanis Club of Central Detroit, March 26, 1928.

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of reproduction. Speaking of psychologists, they battle much about the designation "instinct" but at this stage of our knowledge, it is probably quite academic, as to what special designation we give to these intrinsic urges, the principal point for us to remember is that they are as basically characteristic of every human, as bitterness is an unquestioned characteristic of quinine. Bearing in mind then the molding influence of these two primary urges especially, let us for the moment, think of the intrauterine development of the human infant. For nine months it derives its food, rest, and protection through special membranes of its mother. Has it any urges during that period? They are there as potentials, certainly. To what extent and degree is still very much a matter of ignorance. We do know enough, however, about the prenatal period of infants to judge it wise to safeguard maternal health in all its phases of hygiene, mental by no means the least.

The hygiene of the mind of the new born infant is a rapidly unfolding story. During the first days, weeks, and months of its existence, the infant is a bundle of reflex reactions. Parental understanding must beware during that time that only the wholesome and the natural be presented to the growing infant for the conditioning of those reflexes. The understanding parent keenly observes that imitativeness and suggestibility are the avenues through which the infant makes his acquisitions as he passes beyond the reflex stage.

In early childhood, the child's love of power as seen in his behavior and his conduct is shaped by the understanding parent through the guidance of approbation for responses cheerfully made. The understanding parent will be also very mindful of the importance of making his directions and instructions simply, clearly, and so explicit that obedience will be encouraged rather than discouraged. Give no directions that you do not expect to be fulfilled. Once given see that they are carried out without exception. A task requested and set should be completed. There is no mind more alert to an omission than that of a child. Obedience is a matter of mental discipline, undeveloped more often than over-indulged, difficult to cultivate but a prime essential in all the affairs of life. A wholesome understanding of its nurture and its culture to the point of actual and cheerful spontaneity is a trustworthy plank in the platform of mental hygiene. Think not of obedience in terms of antiquated dogmas

but in terms of cheerful invitation and mutual acceptance by parent and child. Remember also that "Little foxes have big ears." Much is said before children under the impression that they are too young to comprehend. Such impression is a very false one and the less indulged the better. It is far wiser to simplify all family discussions so that children may understand and take part. Reservations will not be so numerous that they cannot be covered by father and mother when alone. Avoid nagging, bickering, haggling, and altercation. Children are truly little 'copy-cats' in mimicking and even pantomining their elders in this respect.

With the appearance of adolescence, male and female divide in their personality reactions and very thoughtful consideration must be granted such change. That hygiene of their mind be properly observed, the parents with their adult maturity and experience must think of the adolescent in terms of childhood and not in terms of weight or stature. This becomes all the more true as the adolescent passes into youth and the early adulthood of man or woman. Remember too, that we must constantly think of the youth as a unified whole, a highly organized unit disclosing its entirety of function through its personality. By way of a working definition we may think of personality as the sum total of all the biologically innate, or inborn, urges, dispositions, impulses, and appetites of the individual and all the acquired dispositions and tendencies gained through experience. The activities of the whole human machine in contradistinction to the action or the function of one of its component parts only, is the primary consideration. During their adolescence, both boy and girl still copy the parents closely so if you would mold properly their personality reactions see to the dignity and the importance of parental example.

In studying the relationships of the child or the adult outside of the home we deal with another urge that is second only to the two urges we have thus far emphasized and that is the so called push of gregariousness, or herd instinct. It is that urge that impels the child to play with others. It is that urge that determines group training and as seen in the adult, determines community reaction, interest in state, nation, and international affairs.

Mental hygiene in the adult man and woman is always a very individual matter. A little knowledge here, as in matters generally, is dangerous. Wholesome self

knowledge is possessed by few, male and female alike. Self-consciousness, inferiority-complexes, mental conflicts, prudishness, and eccentricities are all masks, often hideous, of ignorance parading under the title of knowledge. Very naturally the thoughts, actions, interests, and reactions of both man and woman are going to vary not only with their sex but also with their age, their civic status, that is, whether married or single, and with the experience they have acquired through their various environmental settings, but paramount is the understanding of the simple essentials of life and the urges to which we have already referred. The problems of love, sex, mating, procreation, and the rearing of children are all issues, the understanding of which form a definite chapter in the hygiene of the mind. Yes, there are 'lemons in the garden of love' and they are not all females either. So take an inventory of some of your patriarchal privileges (?) and make some much needed adjustments. While in this eugenic mood we might remember also that 'the old apple tree hasn't much on some family trees when it comes to being shady'. Mental health problems, for example, the interruption, the correction, or the cure of nervousness is not a matter of will-power, nor the imagination. I once had an alert patient say to me, "Doctor, they say it's my imagination. If it is, what is wrong with it? Why is it working overtime"?

We would very much like to be more specific and give other instances of action and reaction but time and space forbid.

That more thought must be given to hygiene of the mind needs but little emphasis. Consider for a moment that in the United States, as given in the census of January 1st, 1923, there were in round numbers 300,000 inmates in our state institutions for the nervously and mentally ill. That number must be doubled, making 600,000, if we include paroled patients and those individuals of unsound mind but who are not sufficiently abnormal to demand that they be in an institution. If we accept in round numbers that the population of the United States is 120,000,000 then it means that one person in every 200 is decidedly nervously and mentally unstable. The rate of increase in insanity is greater than the rate of increase in population. This fact is a challenge, not alone to the medical profession but to the understanding of every man and woman making up this commonwealth. What are we doing to improve the condition? Very little com-

pared with efforts in other fields. Visit the Receiving Hospital of this city and you can find most any day from fifty to sixty nervously and mentally ill patients lying on the floor on mattresses for want of space and lack of state and municipal facilities. Our state institutions are over crowded, discouraging waiting lists of several hundred for each institution delay admissions. Does Michigan have many private sanatoria for nervous and mental diseases? Only very few worthy of the name. The number of small ones of commercial type are thoroughly inadequate to meet the problem.

Is there any mode of preventing mental disease? Just as surely as vaccination prevents small pox, but the public is still too lethargic to understand the actual needs and the remedies offered.

Is it just blind criminal impulse that causes such deeds as that which mars the history of Bath, Michigan. Obviously, through mental aberration, Andrew Kehoe claimed 44 lives, men, women, and school children, his own life included.

Albert Hoteling in an impulsive moment sacrificed the life of an innocent girl of tender years.

In the case of Kehoe, if we can believe the accounts in our newspapers, placards on the man's fence announced "Criminals are made, not born" and observation showed that the man had ringed his fruit trees in order to cause their death. His excessive brooding over taxes and collections was well known to his neighbors. Was that not sufficient warning to let those know, who can see, that Andrew Kehoe's mind was not functioning as it should?

Would mental examination have disclosed any aberrations in the personality reactions of Albert Hoteling prior to his deed? Very probably, although a much more complex problem than that of Andrew Kehoe.

Great is the wisdom and many are the figurative padlocks on the door after the horse is stolen, but we promptly forget and nothing is done. Hoteling in prison at Marquette doesn't solve the problem in the least.

One of the greatest remedial steps necessary in bringing about proper hygiene of the mind, proper protection of society, is periodic and appropriate medical examination for the central nervous system, just as we have for our heart, lungs, eyes, teeth, and tonsils.

In conclusion, it is my earnest plea that

public spirited men and women come to the aid of the medical profession in bringing about the establishment of proper preventoria for nervous and mental diseases, and assist in the encouragement of periodic nervous and mental examinations.

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Points on Child Behavior—Lowrey.
Can Youth be Coerced?—Williams.

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NOTE—This list of books is presented with the names of publishers and the prices attached as the object is to supply those of the medical profession who are interested, with concrete assistance for cases which come under the particular designation of mental hygiene.

MICHIGAN RESEARCH MAN HONORED

Out of the research that won the \$1,000 prize of the New York meeting of the American Association for the Advancement of Science just closed, there may come new treatments for severely burned fire victims, water-logged fat people, and sufferers from diabetes insipidus. Dr. Oliver Kamm, the research director of the Detroit drug manufacturers, Parke, Davis and Company, who was honored for his paper on "Hormones from the Pituitary Gland," has studied for the past few years one of the smallest and most important organs of the human body. About the size of a green pea, the pituitary gland is located near the brain, carefully protected and inaccessible. The front or anterior portion of the gland is responsible, when it is overactive, for some giants of the circus and other ungainly, unfortunate individuals whose skeletons have grown abnormally. Dr. Kamm investigated the back or posterior lobe of the gland, and found two hormones, called alpha and beta, produced by it. If you could buy these hormones they would cost you millions of dollars a pound. As it is, Dr. Kamm has been able to produce only a very few fractions of an ounce. So limited is the quantity that the chemical analysis must be performed under the microscope and the pituitary glands of 50,000 cattle must be used to obtain enough hormones for a single laboratory experiment.

The alpha hormone promises the women of the world some relief from the pains of childbirth as it aids that process. At present its cost price, at the rate of \$3,000,000 a pound, prevents practical use.

The beta hormone has the important function of controlling the utilization of water in the tissues of the body. Dr. Kamm has been able to classify individuals as "physiologically wet" or "physiologically dry."

"Some individuals, the physiological wets, are

extremely sensitive to the action of the beta hormone," Dr. Kamm said in explaining his work. "Others readily return to normal after administration of the hormone and they are the physiological dries.

"The fleshy type of individual is almost invariably the wet type, whereas the slender, scrawny individual is usually a dry. The suggestion is therefore made that we have here possibly one of the important explanations why the former is fleshy and why the latter fails to put on weight readily in spite of an excessive intake of food and water.

"It is apparent that the portly person who is desirous of reducing must cut down on his liquid intake, as well as on his intake of solid food. As for the scrawny person, gland therapy may possibly be indicated, but here the work is still in the investigative stage and conclusions cannot be drawn."

Since the beta member of the "pituitary twins" affects the body's water content, it may prove useful in the treatment of severe burns which produce their damage by dehydrating the tissues of the body. Diabetes insipidus, characterized by disturbed water conditions of the body, may be better understood and treated through the use of the beta hormone when its cost is reduced to a price much less than its present value of a million dollars a pound.

The post-pituitary hormones are very similar in chemical behavior in spite of their different physiological action. One of the effects that are produced with equal facility by either of them is the increasing of the sugar content of the blood to counteract, for example, an overdose of the hormone, insulin, which science gave the world only a few years ago as a treatment for diabetes mellitus.—Science Service.

SOME ACTIVITIES OF THE MEDICAL DEPARTMENT OF THE MICHIGAN TUBERCULOSIS ASSOCIATION FOR 1928*

E. R. VAN DER SLICE, M. D.
(Medical Adviser)

The Medical Department of an organization such as the Michigan Tuberculosis Association has a great variety of duties and responsibilities. It is closely connected up with the whole organization. In fact its activities are so intimately dovetailed into those of other departments that it is next to impossible to draw a line anywhere and say that this is not connected with the Medical Department.

Perhaps one of the most important duties of this department is the correlation of the social and medical activities of the association. Details can hardly be given. It is more or less intangible, nevertheless very real. It may interest you to know that hundreds of letters reach this office from laymen asking for information concerning tuberculosis. Many letters are also received from doctors asking for suggestions as to routine and treatment for individual cases. All these letters call for replies. The reviewing of literature for distribution by the association, both scientific and more general, for the purpose of eliminating inaccuracies, requires time as do many other routine duties. Clearly then in a brief paper I can but touch upon the more obvious activities of the Medical Department during 1928.

RESEARCH WORK

This department is now engaged in a piece of research work which we believe will give information not now available, concerning the needs of the school children of Michigan who are physically below par. It will also tell us what is being done for these children and what percentage of them are being reached. We hope further to learn of the relative effectiveness of the different methods used in building up and training these children. It is probable that in another year we may be in position to make suggestions and recommendations for improvement of the plans now in operation.

REGIONAL CLINICS FOR DOCTORS

For several years there has been a growing conviction among the doctors of Michigan that some brief practical review of the essential points in the diagnosis of tuberculosis would prove a help to the profession of the state. This department seized upon the early diagnosis campaign as presenting an opportunity to initiate some such effort. Medical superintendents of Sanatoria, members of the Michigan Trudeau Society, and other physicians were consulted regarding the advisability

of attempting such an undertaking. As a result of these inquiries a one day demonstration clinic for doctors, in different parts of the state was decided upon as a feasible plan.

The boards of control and the medical superintendents of five county sanatoria offered the resources of their institutions to further this plan. Members of the Michigan Trudeau Society (which organization always holds its fall meeting with this association) generously tendered their services toward making such an undertaking successful.

On February 16th, the first regional clinic for doctors was held at Ingham sanatorium. Dr. J. A. Myers of the University of Minnesota, who has done much for children with this disease, gave the luncheon talk and demonstration on tuberculosis in childhood. The sixty (60) doctors from the southeast section of the state, who accepted the invitation to this clinic, spent the day in small groups studying the normal chest, and tuberculosis in different stages, under the direction of members of the Michigan Trudeau Society. The enthusiasm displayed and the expressions of appreciation by the doctors attending, demonstrated conclusively that this effort was well received. Many doctors by word of mouth and by letter have asked that these clinics be repeated.

The success of this initial doctor's clinic was repeated without diminution of fervor in the sanatoria of Kalamazoo, Muskegon, Oakland and Marquette counties. In all 232 doctors from many parts of Michigan left their busy practices to spend a day at these clinics. This department is anxious to co-operate with the Trudeau Society and the medical superintendents of the sanatoria of Michigan in making the doctors' clinics of 1929 of still greater value. The doctors attending this series of clinics form the nucleus of a list to whom scientific literature on tuberculosis is sent each month.

* Read at the Twentieth Annual Meeting of the Michigan Tuberculosis Association.

PERMANENT CLINICS

The permanent chest clinics conducted by the local affiliated societies of this association are correlated by the medical department, and reports of the work done are quite complete in a large percentage of them. Approximately 2,000 people have been examined in these clinics since the beginning of the year. This does not include those examined at the clinics conducted in twelve counties of the state, supporting ten accredited sanatoria. In these counties the medical superintendents of the sanatoria conduct the clinics as a part of the tuberculosis program. The more populous and wealthy counties can afford to maintain a permanent clinic but more than half the counties of the state cannot do so. The itinerant clinic must continue to serve this group.

THE ITINERANT CLINIC

The itinerant chest clinic has gone into 42 counties so far, this year. These are counties without permanent clinic service. One thousand, eight hundred eleven people have been examined at these clinics and copies of the findings sent to the family doctor in every instance. Out of the 1,811 cases examined, 207 or 11% were found to have tuberculosis in some form. Three hundred eighteen or 16% were classed as observation or suspicious cases. These 515 people were requested to report to their family doctors within one week from the close of clinic for definite advice and for further observation and study. Because of the limited clinic force and few public health nurses in the field it is not always possible to see that all of these cases reported back to their doctors. This is a lack which should be corrected another year. Nurses should follow up these cases and see that they report to their doctors as advised. They should also with the consent of the doctor give home instruction. Because of lack of funds to prolong the clinic service, approximately 500 cases were turned away without examination.

Many counties in Michigan need greater clinic service, and definite follow-up work. The large field and limited finances make

this a difficult problem. The larger and more favored counties of our state must continue and even increase their contributions to their weaker sisters.

The itinerant clinic is becoming more and more popular not only among the people generally but also the doctors are more co-operative. It is not unusual for a large percentage of cases examined at clinic to be brought in or referred directly by the doctors themselves. Recently at one of these clinics a doctor speaking for a group of his colleagues made the suggestion that the local medical society assume the responsibility of getting patients out, and doing a large part of the preliminary work for the clinic. The increasing goodwill and support of the doctors assures a greater future for the chest clinic. The tuberculosis campaign is not a lay movement. It is a combined medical and social movement. The better the understanding and the greater the cooperation between these groups the surer are we of lasting results. Nothing else in the campaign is so important as this.

The records of the itinerant clinic emphasizes the fact that there is a shortage of sanatorium beds in Michigan since many of the cases of tuberculosis discovered had to be placed on the long waiting-lists of such institutions. Many of these cases are being cared for in homes where there are children and spread of the disease is almost inevitable. This clinic has aroused interest in the need of hospitalization of advanced cases and the institutional care of other cases including children with the lymphatic type of the disease. Local health officers are coming to more fully realize their responsibility in the care of the tuberculous. This clinic has had its part in stimulating their interest.

The work yet to be done by this department is far greater than its past accomplishments. And we enter the new year with full realization of our shortcomings; but with the determination to do more and better work in 1929. We shall at all events work in very close co-operation with the doctors of Michigan.

FRACTURES OF CLAVICLE

The clavicle is one of the most frequently broken bones in the body. Statistics show that from 5 to 10 per cent of all fractures occur in the clavicle. E. L. Eliason, Philadelphia, believes that ambulatory dressings for fractures of the clavicle are generally unsatisfactory as regards comfort and anatomic perfection, although function is almost universally all that could be desired. The multiplicity of methods points to the unsatisfac-

tory state of such fixation. The recumbent methods which take cognizance of the necessity of a scapula flat on the chest will give the best results anatomically as well as functionally. Complications other than associated bony lesions are very rarely due to the fractured bone itself. Open reduction is seldom necessary. It is the man behind the splint that counts.—Journal A. M. A.

REPORT OF A CASE OF INTERSTITIAL PREGNANCY OPERATED UPON BEFORE RUPTURE

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DETROIT, MICHIGAN

Interstitial pregnancy has been defined as gestation in that part of the oviduct which is within the wall of the uterus. It is of sufficient rarity to warrant the report of a case. Rosenthal, who investigated 1,300 ectopic pregnancies says there were only three per cent of these of the interstitial variety. Wynne, in a study of 1,547 cases of ectopic pregnancy, found an incidence of only 1.16 per cent. Martin found 1 in 77. Oastler found 2 in 106. Foskett found 1 in 117. Tait found only six specimens in the English museum up to 1890.

Prior to 1893 all cases in the literature had been found at autopsy, these patients having been treated expectantly with 100% mortality. On October 15, 1893, the first operation for interstitial pregnancy was done by Traub who did a supravaginal hysterectomy, and eight days later Lawson Tait operated on the second case, incising and draining the sac. Since that time the condition has been diagnosed and reported several times each year as Moore, in 1922, found 79 cases reported, 20 having been operated on before rupture.

With a view to reporting the present case some twenty case reports were studied; however, nothing was revealed other than what had been noted in previous and more exhaustive studies. The general features of the condition, then, are given here as they have been described in previous discussions.

The average age of these patients is about thirty-two years. The condition occurs more frequently in multiparae. The history and symptoms both before and after rupture are identical with those of a tubal pregnancy. There is a delay in menstruation of about fifteen days followed by expulsion of a deciduum with profuse or prolonged menstrual bleeding. Case histories vary considerably. Lewers considered persistent amenorrhea a very important sign in differential diagnosis. Wynne's investigation of thirty-six cases shows persistent amenorrhea in twelve, regular periods in two, and irregular bleeding in twenty-two, although very slight in five of these. If rupture occurs it is usually marked by a sudden sharp pain in the lower abdomen followed by faintness, thirst, abdominal tenderness—in short, the classical picture of ruptured ectopic pregnancy with abdominal hemorrhage and collapse.

Examination before rupture may reveal a definite enlargement in one cornu which is difficult to distinguish from a small myoma in the cornu, or pregnancy in one horn of a bicornate uterus, the history offering

a clue to the diagnosis. Very few cases have been diagnosed before operation, which has seldom been done before rupture. Even with the abdomen open, the diagnosis is not easy. Anatomically, interstitial pregnancy presents three classical characteristics:

1—Ruge-Simon's sign (asymmetry of the uterus).

2—Asymmetry of the adnexa.

3—Displacement of the round ligament (which may be upward, downward or laterally).

There is usually an elevation of the fundus on the gravid side. The tumor may be on the cornu or downward, lateral to the uterine body. The tubal insertion on the gravid side is usually drawn up when the ovular sac develops upward.

When seen after rupture there is most frequently a jagged rent in the upper aspect of the cornu, this being the commonest site of rupture. However, rupture may occur between the walls of the broad ligament which renders the case more serious. The fetus may be found free in the pelvis or within the tumor. Due to the rich blood supply of the uterine wall the hemorrhage after rupture is usually undating in character, being worse than that seen in ruptured tubal pregnancies. The mortality is variously estimated at from about 11% to about 20%. This has been falling in recent years due mostly to less delay in operating. However, the interstitial is still to be considered the most dangerous form of extrauterine pregnancy.

Not all cases go on to rupture. Interstitial pregnancy may end in one of three ways:

1—By rupture.

2—By abortion into the uterus, which is rare and may be followed by a normal pregnancy, an angular pregnancy, or expulsion of the ovum.

3—By death of the ovum and formation of a mole.

Although most cases rupture at about six weeks or two months, rupture has been

reported at five, seven, and even nine months. After viewing the history of causes assigned for this condition, we may as well admit that the cause is unknown.

Once the diagnosis is made or suspected, the treatment is immediate operation. Resection of the affected cornu may be sufficient in some cases; in others hysterectomy is necessary. The diagnosis usually cannot be confirmed without microscopic examination.

This patient was first seen on August 24, 1928, complaining of pain in the lower left quadrant and loss of weight. Had been told by a physician that her left tube was bad. Had had no treatment. Had taken some medicine for epigastric pain.

Family history: Irrelevant.

Personal history: Has usually been healthy. Had no need for a doctor until her confinement three years ago. Has had no operations or serious illnesses.

Menstrual history: First menstruated at sixteen. Is usually regular, twenty-eight day type, flowing four or five days without pain. Married at twenty. One normal birth. Recent periods atypical. April and May periods were late. In June patient menstruated ten days starting on time. July period began on the 26th, which was four days late, and lasted for three days. On August 9th patient began to menstruate and flowed for three days. She had a normal period September 1-4.

Present illness: During the previous March patient had some pain in the epigastrium and bad taste in her mouth. The pain complained of in the lower left quadrant has not been synchronous with menstruation. It was especially bad on August 19th. The bowels move well without cathartics. Appetite good. Food gives no pain but patient has occasional regurgitation. Has more or less chronic feeling of being sick at her stomach.

Examination: The general examination revealed nothing of any special interest. Abdomen is normal in contour and there are no palpable masses. There is some tenderness to the right of the umbilicus.

Pelvic examination: Inspection of the perineum reveals no evidence of discharge or irritation. Introitus somewhat relaxed. Glands negative. Cervix closed; points backward; is not lacerated. Fundus anterior and freely movable; somewhat elongated and slightly softened; is tender to pressure. At the junction of the left tube and uterus is an enlargement the size of a bantam egg or about four centimeters

long by three centimeters wide. This is somewhat tender.

Right adnexa is somewhat tender and cannot be clearly mapped out. Speculum reveals only slight discharge. No other abnormalities.

Diagnosis of chronic left salpingitis was made, considering likelihood of chronic appendicitis.

The patient was operated upon on September 11, 1928. On incising the skin it was noted that the patient bled very profusely with capillary oozing. The fundus being brought into view presented a smooth ovoid tumor on the uppermost portion of the left cornu. This was about the size and shape of a bantam egg, was cystic in consistency and translucent in appearance, the contents being obviously hemorrhagic. The possibility of interstitial pregnancy was considered but it was felt that the condition was most likely a degenerating fibroid. A right hydrosalpinx with adhesions and varicosities in the right broad ligament was noted. The left tube and ovary were negative. Accordingly a hysterectomy was done, removing the right tube and ovary leaving the left tube and ovary in situ. The veins of the right broad ligament and surfaces where adhesions were broken up gave a great deal of trouble with capillary oozing. This bleeding seemed to be of hemophilic character and was very difficult to control. After repeated attempts to control this bleeding and after much delay, it was decided that further oozing would not be serious so patient was closed up and returned to bed. As the bleeding and operative shock had been considerable, her condition was poor, the pulse running about 160 and being poor in quality. A transfusion was arranged for and given as soon as possible. Improvement was at once noted, and from this time on patient made an uneventful recovery. It was not until the microscopic section from the tumor had been examined that the true nature of the condition was definitely known. An interstitial pregnancy had developed in the left cornu, had eroded its way through the tissues of the wall and was contained by only a thin layer of uterine tissue and peritoneum. The fetus had died and was being slowly digested and absorbed, otherwise rupture would likely have taken place some weeks previously.

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LOVE OF SURGERY*

JOSEPH LIBURT, M. D.

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It came about during their engagement, the planning of their future: so much of the day for the practice and advancement in medicine; the rest for social and personal venture. In such a wise did their wedded life begin. Adele was all enthusiasm at John's efforts to become a great surgeon. When he came home, she would ask intimately about each case: what he did; how much he charged and if too much; did he make the right diagnosis—to all of which John showed an eager readiness to respond.

Of an evening he took to reading journals and writing surgical treatises. He visited clinics, meetings, and medical congresses in different cities. Not a little pride was taken in his invention of instruments to make the surgeon's task easier and more efficient.

As the lure of the scalpel took more and more of his time and fervor, Adele gradually discovered that home life, to her such a potent factor, had come to be for John, unconsciously, perhaps, a diastole for the morrow's renewed joust with medical life. The matter of children was always put off to some distant day, "when John would become famous".

She awoke one day to the keen realization that love, which to her meant life, was cruelly passing her by. This thought gave way to a brooding, and a hating of all things medical. Yes, that was it! The ogre Scalpel had stolen a love that was rightfully hers.

There followed daily discussions, tending to make John realize that his time these many years had been monopolized to the exclusion of the real values in life. What of art, of love, of hobbies? Where was her place in his scheme of things? Or was she merely an unavoidable necessity? There could be no half-way measures: if he were to concede her place in the sun, he must sever himself completely from all medical contacts; the rest of his life would be for love, and, as Adele supplemented, "art and hobbies". With what mingled feelings did John at the sunset of his career give up his office, send notices to his patients, resign from his medical societies, and cancel the journals, the beloved journals. He had written finis to all that hurly burly of life. . . .

For two or three months, Adele re-lived the glory of their earlier life. John had seemed to understand, and Adele was infinitely happy. The spectre of the scalpel was truly no more.

But was it no more? All too soon she sensed the struggle which engulfed him: a restlessness, a passive acquiescence to her social demands; an incessant "going out for a walk", and forgetting the dinner hour; a sleeplessness bordering on insomnia; his stupid responses to her attempts

at diversified conversation; a listlessness quite foreign to the John she had known—he was truly helpless to face this new situation. If Adele sorried of her bargain, she at least gave no outward indication. But there was no going back, that was certain: his action in that matter had been irrevocable.

And John? He would be up at his usual time, six o'clock, dress, and start for the door, only to check himself. No, he smiled, no more of that; and glancing down, would pick up the morning paper. Previously, on his morning sojourn to the hospital, while waiting for traffic signals to change, he would fancy reading the paper in an easy chair, puffing luxuriously at a Corona. The same newspaper now held but little interest for him. Like the self-made man, who, deprived of toys when a child, had purchased them in great quantities, only to discover that his imagined delight did not materialize.

Gad, how time dragged! In ennui, he would stroll downtown. Strange, he had never studied the down town crowds. Everybody going somewhere. He recognized several operative cases. One in particular. And he had proved to Brown that his diagnosis—but what was that to him now!

He was in front of a book store. Conrad, Galsworthy, Chekov, those were the gems Bill spoke about. Always looked up to Bill. He read them conscientiously, but when Chekov interspersed some medical phrases, he would fall into a reverie, and thus Adele would find him.

The afternoons. Often he found himself in front of his old office door. Or in the cloak room of the hospital. The movies came to his mind, and he would wait in line for his next. He of all persons to an afternoon movie, and patients waiting in his office! Patients? What was he thinking of!

For him there was no more waiting, all scrubbed and sterile, amid the scurrying of nurses and futilities of internes. The wheeling in of the patient, the prep, the familiar smell of the ether, the loosening of table straps, and all ready to go.

The usual abdominal incision, the clamping of spurters, the separation of muscle, the pearly peritoneum, the bobbing up and down of intestines; the steam from hot packs getting underneath the mask; the turning to have the nurse wipe his forehead; the sponge count. . . . Off with the gown and hands sweaty from the gloves.

Out in the hall, horse playing with the fellows, and listening to some one else's hard luck with a case; coffee and crackers at nine-thirty and once more the same enactment.

The rounds, waiting for the nurse on the hall his tolerance of erudite internes, the fingering of charts . . . talking it over with grief-stricken relatives.

The office appointments, the consultations, the

*Dr. Liburt is one of the younger physicians of Detroit. This little excursion into the romantic aspect of medicine is commended to the reader.

chronic kickers of bills; some patient he'd operated years ago, in to renew his acquaintance. Driving home during the rush hour, anticipating tomorrow's schedule....

The medical meetings and conventions, and what went with them; the time he would spend on his papers—all this was relegated to a limbo of the receding past.

It would take time, he mused, but he would surely find himself. He would hearken to the literati, improve his golf; even now he sensed the pleasure Adele derived from his company. Those poor dubs, still answering to the call of the ether can....

And yet that feeling of calm was not to be his. At his heart a constant tug, a gnawing. He was satiated with this new scheme of things. As in a visitation, he saw that for him art, love, and hobbies had but one meaning: surgical practice.

Try as he might, this thought gave him little rest. Sequestered in his study room, he pored over it again and again, for hours battling out the issue.

Knowing too well the danger of loneliness, it became Adele's custom to keep John daily company: to soothe his jagged nerves, to divert his mind to neutral channels; to paint in tempting words a life which would far outshine the old; to her notion it might ease the bridging over period. She was getting to feel her efforts to be not entirely in vain, that success was imminent. Then one day, as she opened his study room door, a strange sight unfolded itself. There was John, head bowed down, his right hand enmeshed in a glittering array of instruments. She approached, and shook him gently...and then more firmly. She lifted his head, and therein was the answer. And knowing, she gazed unseeingly at the metal which had thwarted her desire.

CAVERNOUS SINUS THROMBOSIS—WITH REPORT OF CASE

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DETROIT, MICHIGAN

A proper conception of cavernous sinus thrombosis hinges upon the mechanism of the venous circulation of the face, orbit and the sinus itself. The free anastomosis of the angular vein with the terminal branches of the ophthalmic veins predisposes to a dissemination of an infectious process from the nose, upper lip and eyelids into the cavernous sinus. This is the anterior route of invasion of the sinus, the posterior route is established through connections of the sinus with the inferior petrosal sinus (aural infection), and the inferior route through the pterygoid plexus of veins, and the capillary connections with the nasal sphenoid sinus.

The anatomic-pathologic basis of the cavernous sinus thrombosis is dependent upon the extension and dissemination of a local infection (furuncle, carbuncle) by incision and the added trauma and insult of squeezing, into a progressive thrombophlebitis¹ along the veins entering the orbit and the cavernous sinus.

The clot within the sinus is primarily protective in origin; it is not a disease itself. "Later,"² however, if the protective, obliterating clot does not succeed in limiting the infection to the vasa vasorum, to the wall of the sinus, or the cavity of the sinus, the clot itself may become purulent with the discharge of micro-organisms into the blood stream, thus becoming a general blood stream infection."

From a surgical standpoint cavernous sinus cases may be divided according to the virulence of the pathologic process, into (1) the acute and fulminating, and (2) the chronic, compensatory. When a very rapid venous obliteration occurs, resulting in high fever, chills, chemosis of the conjunctiva, exophthalmos, first of the eye of the homolateral side and then of the opposite eye, the process is characterized as an acute fulminating thrombophlebitis.

Death invariably results. When only a low grade infection (staphylococcus) is present, a gradual occlusion of the sinus occurs, and exophthalmos and chemosis are not noted nearly so early, or are only slight. The collateral circulation is given time for adjustment and the process becomes a chronic one. Again, a case of thrombophlebitis which in the beginning is infected, may compensate to the extent of heaping up a still larger clot, and become entirely aseptic.³ The case history of this last type will be reviewed here briefly.

RESUME

A 14 year old boy had a furuncle incised which was located on the nose near the inner canthus of the left eye. The following day the swelling spread to the left orbit, edema of the lids, chemosis of the conjunctiva, protrusion of the bulb ensued. A high fever (104.4) occurred and he complained of constant left temporal headaches. Two days later a similar swelling and protrusion was noted on the right side.

The patient then spent two weeks in a hospital, the high fever continued, and the pulse was reputedly slow. The X-ray findings of the paranasal sinuses were negative; blood examination revealed nothing abnormal.

The patient was first seen when the left sided headaches became more excruciating. The boy was extremely emaciated, conscious, but responding only in monosyllables, complaining chiefly of

the headaches and photophobia. Temperature 99.5, pulse 95. There were no palsies of the extremities; no sensory disturbances.

The left eye was entirely extruded from the orbit and rested on the cheek; a suppurative panophthalmitis was present with the pus pointing through the cornea. Photophobia but no vision present. The upper and lower lids were swollen, ecchymotic and tender.

The protrusion of the right eye was so great that, although, the lids closed upon the bulb, the eyeball was entirely immobile. The tenderness of the eyeball and the photophobia were very disturbing. The pupil was widely dilated and reacted sluggishly to light; there was no ciliary injection but the conjunctival veins were engorged and very prominent. The vision in this eye was 1/60, approximately four inch type seen at one yard. Fundus examination disclosed a marked fulness and tortuosity of the retinal veins and edema of the retina. The nose and throat were without special findings. The WBC was 10,500; the Wassermann was negative; there were casts and albumen in the urine.

On November 5th the macerated left eye was enucleated and the deeper orbital tissues found invaded by an extensive cellulitis. There was no evidence of any tumor mass. The following day the temperature dropped to normal, and in six days the pulse gradually declined from 90 to 70. The headaches and photophobia subsided completely. Drainage from the left eye continued about three weeks and as soon as the remaining edema of the conjunctiva disappeared, a suitable prosthesis was fitted.

On December 15th the right eye protruded about as much as before, there was no photophobia however, and no evidence of sympathetic ophthalmia. The retinal veins were still full but less tortuous than before, and the vision was now normal, 6/6.

On January 10th, a little more than two months after the operation, the exophthalmos of the right eye had diminished appreciably, the retinal veins were considered to possess about their normal calibre. The patient gained 15 pounds in weight and felt that the protrusion of the right eye was receding although it had not as yet reached its former natural position.

Infective thrombophlebitis of the cavernous sinus occurs (1) when an infected

clot comes from another sinus; (2) from disease of the nasal sinuses; (3) from orbital cellulitis; (4) from pyogenic processes of the face or eyelids. The principal symptoms are edema of the lids, chemosis of the conjunctiva, extreme degree of exophthalmos; pain and the general symptoms of pyemia. Choked disc or pronounced venous engorgement of the retina is present; the vision is impaired. The condition invariably spreads to the other eye along the intercommunicating radicals of the cavernous sinus.

In the acute fulminating case, a surgical attack upon the sinus assures little success because of the severity of the infection. A moderate hope of the patient's recovery in the chronic compensatory types is based largely on the protective nature of the clot. Spontaneous recovery may ensue after drainage and exenteration of the original focus of infection: it would be a great surgical error to remove the protective clot under such circumstances.

NOTE: On January 22nd, nearly three months after the operation, the patient was enjoying the best of health. Two days later, he suddenly became bedridden again with an excruciating headache and symptoms of meningitis. The spinal fluid was thick and cloudy, the cell count fluctuated between 10,000 and 50,000. Antimeningococcic serum was administered daily. No organisms could be isolated in the spinal fluid on repeated examination. After a few days of improvement in his general condition, the patient suddenly expired on February 4th, when his spinal fluid again became very cloudy; in the last specimen of fluid short-chain streptococci were found. The author did not have the opportunity to study and observe the patient during his last illness, however, the final diagnosis points either to a frontal lobe abscess or basal meningitis.

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SYNERGISM OF MAGNESIUM SULPHATE AND MORPHINE

The synergism of magnesium sulphate and morphine has been definitely proved clinically by James T. Gwathmey, New York, in both obstetrics and surgery, the value of morphine having been increased from 250 to 500 per cent. Magnesium sulphate is put up in ampules alone, with morphine, or with morphine and 2.5 per cent of procaine. If the practitioner prefers, he can sterilize and make his own magnesium sulphate according to the formula of Auer, as follows: "Weigh out 250 Gm. of magnesium sulphate and add enough water to make 1,000 cc., thus making a 25 per cent solution." A chemically pure magnesium sulphate must be used. There is no more danger in administering morphine in 2 cc. of a 25 per cent solution, as far as life is concerned, than there is in administering morphine in 2 cc. of water. Experimentally, this synergism is life saving with laboratory animals when ether vapor is used as the anesthetic. Clinically, it is also life

saving, decreasing both morbidity and mortality. It should be used with all methods of anesthesia and analgesia. Carefully kept records of synergistic obstetric analgesia in nearly 20,000 cases show that it is far superior to "twilight sleep" in every way. The synergism of magnesium chloride with amidopyrine, sodium salicylate and acetylate acid has been proved in the laboratory by Barbour and Winter, and has an indirect bearing on the subject under discussion. The synergism of magnesium sulphate and ether has been proved for the albino rat, rabbit, dog and man, and is of practical importance in relation to the synergism of magnesium sulphate and morphine. The probability is that magnesium sulphate synergizes with almost any drug with which it is compatible, by prolonging its action, deepening its effect, reducing fever, or acting in other ways.—Journal A. M. A.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner

LANSING, MICHIGAN

THE EIGHTH ANNUAL PUBLIC HEALTH CONFERENCE

"If we ask, 'Whither mankind?' so far as public health is concerned, I think we have to say that man now not only on the average lives longer, but he can work more effectively, lose less time from work and thus earn more wages and on the whole be happier in his work than at any time in the past," Dr. James Wallace, associate field director of the American Public Health Association, told the 300 members and guests of the Eighth Annual Public Health Conference held in Lansing on January 9, 10, and 11, 1929. The Conference was, as usual, sponsored jointly by the Michigan Department of Health and the Michigan Public Health Association.

"One of the most hopeful and healthy signs of the times is the more general interest on the part of the public in finding out ways and means of protecting and promoting the public health. It is not merely that large industries for protecting the health and building up the resistance of their workers or their risks, but whole communities are becoming more generally interested in finding out what their health facilities are, how they can be improved, and what the local citizens can do to effect such results.

"Communities are asking to be surveyed as to their public facilities, individuals and groups are seeking information as to what they can do to improve or fortify their own community. All this is indicative of a general program of education in public health and indicates that the people are now more receptive and more ready to entertain any project that will tend to make their community a safe and better place in which to live and bring up their families.

"The second hopeful sign is that surveys and studies and compilations of data indicate that real progress in public health is being made. There are some things, of course, that indicate that we have still a long road to travel before we reach the end of our journey in carrying out an all inclusive satisfactory public health program. In connection with health administration, the facts revealed by the partial survey recently made in regard to the tenure of office by the health officer show that we have not progressed as far in public health as along some other lines of communal activity.

"When we consider that the annual turnover in health officers is about 14 per cent in cities, that the health officer's term of office is from 25 to 50 per cent shorter than that of the superintendent of schools, the fire chief, or the city engineer, and that the superintendent of schools receives on an average from 25 to 50 per cent more salary than the health officer, it indicates that we have not yet generally given the place to public health that we have to some other necessary lines of civic effort and community betterment. But progress is being made, and the results following the effort are justifying the increased expenditures and the added interest of the people.

"What in general are some of the evidences of progress in public health as they come under our observation?

"There is the general decline in the diseases for which we have some fairly definite antidote or other means of prevention and control. In urban districts there has recently been considerable advance in the way of providing better local personnel and equipment for the carrying on of health work. The organization of full-time health service for the rural sections goes on apace, with no mushroom growth, but as a steady, substantial increase. It is true that only 19 per cent of all our rural population is as yet protected by what might be regarded as adequate health service, but the growth in the service has been commendable. In 1920 there were only 109 full-time county units; each year has seen additions until at the beginning of 1928 there were 414. Forty-eight additional units have been added in the first eleven months of 1928."

Dr. John R. Monger, State Health Commissioner of Ohio, in talking on the control and prevention of diphtheria, said in part, "I firmly believe that the control of preventable diseases is primarily one of organization. We have at our command definite, positive methods of control of several individual diseases. We know that eventually diphtheria, typhoid, and small-pox and probably many other diseases will be medical curiosities. Now, how can he apply these methods promptly, is the big question facing the health officer.

"The big thing that confronts the health officer is first of all education, and effective

education can only come through thorough organization.

"We now have one-third of the child population of Ohio at the most susceptible age period—one to ten years—immunized. Other states last year and this year are having the expected rise, the peak of which occurs every six or seven years. Ohio's diphtheria morbidity and mortality curve, instead of rising, is decreasing, and while dreams do not always come true, every health official in Ohio believes this one will.

"This drives home my point that communicable disease control is based on organization. Had it not been for organization we could not have had 1 per cent immunized. The technique is simple.

"First, the local health department is interested, and they get into their budget a sum large enough to buy the toxin-antitoxin. Next the County Medical Society is appealed to. We are perfectly frank with them, and in nearly every instance they back it up.

"Next, the school authorities are interested. Contact is made with parent-teacher organizations, local public health organizations, women's clubs and other organizations likely to be interested. We have an automobile health exhibit, with movies and a generator, that we may show movies in schools, churches, and clubs. This exhibit is accompanied by a trained lecturer and a movie operator.

"The press is appealed to, and suggested editorials and articles are furnished to them. Trained physicians teach the health officer the technique of Schick testing, reading, and immunization.

"In country schools anywhere from 300 to 800 are done in a day, and in centralized and city schools from 1,000 to 1,200 are done. One man did 1,700 immunizations in one day. In over 500,000 immunizations we have not had a single serious result.

"In 1923, we had in round numbers 10,000 cases; 1924, 6,000 cases; 1925, 5,000 cases; 1926, 6,000 cases; and 1927, we had 6,000 cases. The average number of cases per year for the 11 years prior to and including 1923, is over 10,000, and for the 4 years, 1924 to 1927, is 6,200 cases per year. If you take the increase in population, the comparison is even more graphic. One-third immunized and over 33 1/3 per cent reduction. These figures are for the entire state.

"Taking the 20 counties that have done the most immunizations, the reduction is 49 per cent. And in a group of counties

having the least immunization, and with a comparable population, there was an increase of 109 per cent. I think this emphasizes my statement that the control of diphtheria, and, for that matter, all preventable diseases, is a matter of education and organization. The basic policy under which we operate is that public health should in no instance impinge on the field of work of the doctor by giving free treatment, and that all our work shall be education and demonstration, except, of course, the treatment of indigents."

SMALLPOX IN 1928

Smallpox has been at low ebb in all parts of the state during the entire year of 1928. The number of cases reported has been less than during any previous year, and there has not been a single death from this disease. The scarcity of cases and the absence of deaths is making certain people of the state careless of their immunity status. As a direct result of this, a large susceptible population is developing which will furnish fertile soil at some future time. The fact that the cases are all very mild and occasionally atypical presents diagnostic difficulty.

Six such cases recently occurred in Howell. On the basis of these cases the health officer vaccinated all unvaccinated children attending the public schools, and advised all citizens that they should be vaccinated or revaccinated. As a result of this, all the school children and about six hundred others were vaccinated. It is pleasing to note that there was no hysteria connected with all of this work. The local physicians did the work in their offices as a matter of protecting their families against the disease. One case was traced to Fowlerville, which is nine miles away. The same general procedure was carefully carried out there, much to the satisfaction of the business men, who did not want any undue excitement and wild tales about health conditions in their village. Several cases were also found in Bancroft. The same general procedure was carried out there.

D.M.G.

TULAREMIA

Tularemia is arousing a good deal of interest in Michigan, as in other states. A recent letter to physicians dealt at some length with this disease.

"Tularemia is a disease that has recently come to the attention of physicians in Michigan. Hunters are reporting that rab-

bits are occasionally found with white spots on the liver and with other evidences of not being in good health.

"Tularemia is a disease to which both man and rabbits are susceptible. It is caused by a germ known as bacterium tularence. The causative agent of this disease was given this name after an epidemiological study of cases in 1912 made in Tulare county, California. The disease was not recognized at that time in other parts of the United States, but as knowledge of the disease has spread, cases have been found in most all states of the middle west and the upper Mississippi valley. The United States Public Health Service announces that reports of cases have been received from thirty-seven states, the nine northeastern states being the only large area where the disease has not been found.

"Tularemia is essentially a contagious disease of rabbits. The lesions in the rabbits are small white necrotic foci in the liver and spleen, usually accompanied by swelling of these organs. The lymph glands of the axilla and groin show inflammation and occasionally some necrosis. Rabbits showing any of these signs should be taken care of by being burned or buried, without skinning or handling. The organism does not survive long at freezing temperature. Some states have required that rabbits shipped from the states known to harbor the disease be held in cold storage 30 days before being put on the market.

"Tularemia in man is a febrile disease, frequently having many symptoms similar to typhoid fever. The acute attack lasts from a few weeks to a month, or longer. The disease is a bacteremia due to invasion of the B. tularence through an abrasion in the skin. There is usually an ulcer at the portal of entry, but this may be so slight as to escape the notice of the patient. This is usually found on the hands of some individual who has been cleaning or handling rabbits. The lymph channels draining the ulcer are occasionally inflamed, and show red streaks up the hand or arm. The glands at the elbow and axilla are frequently enlarged and occasionally require opening and draining. Other symptoms are frequently like typhoid. The convalescence is always slow. Frequently the patient requires three to six months to affect a complete recovery. Agglutinins form in the blood fairly early in the disease. These agglutinins can be identified by laboratory procedure.

"Tularemia blood specimens should be sent by physicians to the Michigan Depart-

ment of Health in the usual blood container furnished for that purpose."

Guy L. Kiefer, M.D., D.P.H.

BIOLOGICALS FOR THE PREVENTION AND TREATMENT OF SCARLET FEVER

Inquiries are constantly being received from physicians as to the department's distribution of biological products for the prevention and treatment of scarlet fever, and the use of such products. A letter explaining this was sent recently to all physicians, and is reprinted here for the benefit of doctors not on our mailing list.

"The Michigan Department of Health manufactures and distributes to physicians, free of charge, the following biological products for the prevention and treatment of scarlet fever. These scarlet fever biological products will be sent to the physicians of the state when requested by letter or telegraph.

Toxin: Scarlet fever streptococcus toxin is available for distribution for active immunization. This material is usually sent to physicians in three 10 c.c. bottles. Immunization is obtained by administering 1 c.c. from the bottle labeled "First Dose", this is followed in two weeks by 1 c.c. from the bottle labeled "Second Dose", then 1 c.c. from the bottle labeled "Third Dose". It is not advisable to give scarlet fever streptococcus toxin to persons in less than seven days after they have been exposed to a case of scarlet fever. Immunity develops in from three to six weeks and lasts for a period of years.

Antitoxin: Scarlet fever streptococcus antitoxin is used for the treatment of cases. We are manufacturing antitoxin, at the present time, in small quantities only, on account of insufficient funds, but we make every effort to take care of requests. This material is particularly helpful in the malignant or toxic case. The entire contents of the syring is one therapeutic dose. Observe daily all persons exposed to cases. If symptoms appear, give full therapeutic dose of antitoxin and abort the same. This antitoxin may also be used for passive immunity. This immunity is of short duration and is not effective for more than three to six weeks, nor is it advised for persons wishing permanent or lasting immunity. Therefore, use this only for persons who are continuously and intimately exposed, during the time of their exposure.

Dick Test Material: Quite a large proportion of children of school age are found

to be immune to scarlet fever; therefore, it is found to be quite a saving of time and material to do the test on all persons before giving scarlet fever streptococcus toxin. In from three to six weeks after giving scarlet fever streptococcus toxin it is good practice to give a Dick test in order to determine the degree of immunity that has been established. The Dick test material is administered by the same technic as the Schick test.”

Guy L. Kiefer, M.D., D.P.H.

THE USE OF BACTERIAL PROTEINS AS MADE SALU-
BLE BY THE BACTERIOPHAGE FOR PURPOSES
OF IMMUNIZATION AND TREATMENT

The bacteriophage principle was discovered in 1917 by d’Herelle, who considered it a living being capable of attacking and of dissolving bacteria. That such a principle should have therapeutic value was at once suggested and bacteriophage has been used extensively as a method for treating many infections including typhoid fever.

In all cases bacteriophage has depended for its support as a therapeutic agent upon its dissolving action. The conception has been that bacteriophage itself was responsible for the results obtained. It was also known that bacteriophage by its dissolving action left the bacterial proteins in solution. That these dissolved proteins could produce antibodies in much the same manner as killed bacterial vaccines was also shown. That the dissolved proteins were the active principle in the product used I have maintained for years and have specifically mentioned in articles published in 1927 (J. Michigan State Medical Society) and in January 1929 (American Journal of Public Health).

I have shown that the bacterial proteins of Bacillus typhosus, B, Paratyphosis A and B after dissolution by the bacteriophage can produce the same antibodies in human subjects as can vaccines and consider this as evidence that the same product can and does protect an individual against typhoid fever.

It is desired that a patent be obtained to cover the use of bacterial proteins as dissolved by the bacteriophage for the treatment and prevention of infectious diseases, specifically typhoid fever and staphylococcus infections.

That these proteins and the bacteriophage itself are separate and distinct has been shown by numerous investigators. It is possible to separate them and to use bacteriophage itself for therapeutic purposes.

N. W. Larkum, Ph.D., Immunologist.

PREVALENCE OF DISEASE

	January Report Cases Reported		January 1928	Av. 5 yrs.
	December 1928	January 1929		
Pneumonia	1,007	1,752	484	651
Tuberculosis	414	361	404	430
Typhoid Fever	18	16	24	34
Diphtheria	420	430	362	528
Whooping Cough	914	628	594	597
Scarlet Fever	1,083	1,243	1,091	1,381
Measles	311	531	1,539	1,971
Smallpox	105	104	168	225
Meningitis	35	87	10	13
Poliomyelitis	3	4	7	5
Syphilis	1,102	1,536	1,496	1,186
Gonorrhea	661	927	855	801
Chancroid	4	8	12	14

CONDENSED MONTHLY REPORT

Michigan Department of Health Laboratories

	+	—	+—	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				1228
Diagnosis	26	342		
Release	105	165		
Carrier	28	542		
Virulence Tests	11	9		
Throat Swabs for Hemolytic				
Streptococci				820
Diagnosis	144	106		
Carrier	49	521		
Throat Swabs for Vincent's	44	324		368
Syphilis				7830
Kahn	1287	6473	65	
Wassermann	1	4		
Darkfield	1			
Examination for Gonococci	121	1131		1252
B. Tuberculosis				608
Sputum	57	485		
Animal Inoculations	6	60		
Typhoid				86
Feces	3	28		
Blood Cultures		16		
Widals	6	29		
Urine		4		
B. Abortus	1	74		75
Dysentery		31		31
Intestinal Parasites				14
Transudates and Exudates				211
Blood Examinations (not classified)				168
Urine Examinations (not classified)				305
Water and Sewage Examina- tions				537
Milk Examinations				86
Toxicological Examinations				
Autogenous Vaccines				3
Supplementary Examina- tions				217
Unclassified Examinations				748
Total for the Month				14587
Cumulative Total (fiscal year)				102513
Decrease over this month last year				696
Houghton Laboratory—				
Examinations made — Total				
for the month				1373
Cumulative Total (fiscal year)				10311
Decrease over this month last year				787
Grand Rapids Laboratory—				
Examinations made — Total				
for the month				6638
Cumulative Total (fiscal year)				44825
Decrease over this month last year				966
Typhoid Vaccine Distributed, c. c.				1410
Diphtheria Antitoxin Distrib- uted, units				33313000
Diphtheria Toxin Antitoxin Distributed, c. c.				25770
Silver Nitrate Ampules Dis- tributed				7304
Scarlet Fever Antitoxin Dis- tributed, pkg.				62
Scarlet Fever Toxin Dick Test Distributed, c. c.				1110
Scarlet Fever Toxin Immuni- zation Distributed, c. c.				2651
Smallpox Vaccine Distributed, pts.				9580
Bacteriophage Distributed, c.c.				2402

THE JOURNAL

OF THE

Michigan State Medical Society

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MARCH, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

POST-GRADUATE PROGRAM

Elsewhere in this number of the Journal of the Michigan State Medical Society will be found a tentative program for a post-graduate course in medicine and surgery beginning the latter part of May. This program is given by the Department of Post-Graduate Medicine, University of Michigan in conjunction with the Michigan State Medical Society. A considerable part of the clinical work will be given in Detroit where the department of post-graduate medicine has decided to limit the course for the time being to one in medicine and one in surgery which courses will run approximately one hundred and twelve hours each, beginning May 27th and continuing for four weeks from 9:00 in the morning to 1:00. There will also be given laboratory work to the extent of about

twelve two-hour periods. A course in surgical anatomy will be given. The headquarters for the work will be Receiving hospital, Detroit. Other Detroit hospitals where special advantages may be obtained, will also share in the program.

It is also announced that courses of varying lengths have been arranged to begin about April 1st at Ann Arbor, namely in the department of roentgenology and also in serology and laboratory technique. In these courses Dr. P. M. Hickey and Dr. Kahn will be the instructors. More detailed information will appear in the April and May numbers of this Journal and may be obtained also on application to the Department of Post-Graduate Medicine, University Hospital, Ann Arbor.

A CAUSATIVE FACTOR IN DIABETES MELLITUS

Increasing consumption of sugar is considered on good authority as one of the causes of diabetes mellitus.* Sugar is a comparatively recent article of diet. While grape sugar was known in Roman times it did not appear in sufficient quantity to assume any important role as a food stuff. It was not until the seventeenth century that it came into somewhat common use and then was confined pretty much to use in tea and coffee. In the year 1800 it was estimated the consumption of sugar did not exceed eight pounds per person per annum. According to an estimate made by the food research institute of the Leland Stanford University, in 1820 the yearly consumption of sugar was about 17 pounds per person. In 1923 it was 120 pounds per capita. The sugar production for the world for the year 1927-28 is estimated to be over twenty-five million tons or an increase of a million and a half tons over 1926-1927. Perhaps this has also something to do with the increase in demand for dentists.

With the increased consumption of sugar there has been also a marked increase in the prevalence of diabetes mellitus especially during the last sixty years. It is possible that this is more than a coincidence. The death rate from diabetes in the United States, according to the New York Department of Health, has increased from 2.1 per 100,000 of population in 1870 when the consumption of sugar was estimated to be 32.7 pounds per person to 16 per 100,000 population in 1924.

* A. B. Macallum, Canadian Medical Association Journal, January 1929.

It has also been noted that of the average number of deaths in New York, of 1359 in the five-year period from 1923 to 1927, 873 were those of females and 486 of males. The assumption here is that females consume a larger quantity of sugar than do males. Diabetes had become generally recognized in the sixteenth century. Now the diagnosis and prescription of treatment have been reduced almost to an exact science. Commenting on the situation Dr. Macallum** says:

"That excess in the carbohydrate portion of the daily diet can be postulated as a factor in the causation of diabetes mellitus appears from certain theoretical considerations. The utilization of the blood sugar by the body tissues is wholly dependent on the normal functioning of the islets of Langerhans which produce the endocrine, insulin, which dominates this utilization. This production cannot be a haphazard one. It must be in response to some stimulation by sugar directly on the islets, or through action on them of a hormone generated in the intestinal mucosa, as secretin is which promotes the secretion of the pancreatic juice, and as is gastrin, formed in the mucosa of the pylorus to stimulate the mucosa of the cardiac portion of the stomach to secrete gastric juice. If a hormone for the islets is formed in the intestinal mucosa under the stimulation of sugar, a constant and excessive action of the latter would lead to exhaustion and, ultimately, to degeneration of the islets and result in diabetes."

Not all cases of diabetes mellitus arise through excessive consumption of carbohydrates, for instance, those of early childhood are undoubtedly due to bacterial toxins affecting the islands of Langerhans.

There is no intention here to point a moral or adorn a tale, further than stating that here is one factor in the causation of diabetes that is capable of being controlled. It is a matter for moderation. Nor does the solution of the problem of too much sugar lie in "reaching for a cigarette."

COORDINATING MEDICAL RESEARCH

There is a bill before congress the purpose of which is to establish a national institute of health which would be under the control of the surgeon general of the United States Public Health Service. The purpose of such an institute is scientific research relating to the cause and prevention of disease. According to the report of the

senate committee which has approved the bill, "The plan of the institute is to make a great co-operative scientific organization in which leading experts in every branch of science will be brought together and given opportunity to work in unison for the purpose of discovering all the natural laws governing human life, and especially to learn those variations of such laws which are detrimental to human health."

No one will deny the importance of such an institution. The day of the lone worker is past. Big things are accomplished by team work. The industries have taught us this fact.

There is a large place in the scheme of coordination for the medical profession from the county societies to the American Medical Association. Many physicians are qualified for research. The larger number, however, can aid in clinical research "The medical organizations of the country" comments the Pennsylvania Medical Journal editorially, "owe it to themselves and to their clients to establish a protectorate in health research. Cooperation with governmental agencies, foundations, and lay organizations is not only desirable but imperative; but the initiative should arise from the medical societies. Theirs is the responsibility and theirs is the privilege. This does not mean that the medical societies must necessarily finance a large program of research work. If the machinery were provided, the financial support would be forthcoming from the many individuals interested in this type of work."

SCARCITY OF PSYCHIATRISTS

There are about 800,000 beds in all the hospitals of the United States, one-half of which number are in mental disease hospitals. Of the 149,000 physicians in this country it is estimated that not more than 2,000 are skilled in the treatment of mental diseases. Evidently the ministering to minds diseased has not been looked upon as an attractive specialty. The fact is that medicine as usually taught is materialistic; it is concerned as a rule with organic or demonstrable pathology. Psychiatry demands a thorough training in normal psychology just as medicine is based upon a knowledge of physiology and physiological chemistry. Psychology itself is so youthful that one hardly knows what to include in the term, Freudian psychology, or behaviorism as interpreted by its chief exponent Watson, or the traditional psychology of the colleges. The mind is

** Loc cit.

hard to fathom, yet there seems a future for what is termed mental hygiene, that would at least prevent borderline cases from developing into psychopathic states. with the development and stabilizing of normal psychology we may hope for a greater number of competent psychiatrists.

There should be a course in psychiatry, if we dare use the term for what we mean to convey, given to the undergraduate students in medicine. It should be elementary and not calculated to fit the student for specialism in the subject. It should be concerned with the known facts and should be taught as part of the course in internal medicine. Psychiatry as a specialty is probably further removed from internal medicine than those departments which are considered distinctly surgical. With the trend of modern life towards hurry and worry, greater and greater demands are being made upon the nervous system with consequent tendency to the production of neuroses. An elementary course as suggested would tend to eventually increase the number of psychiatrists for whom the specialty is at present a closed field.

PENNY-IN-THE-SLOT-DIAGNOSIS

A movement is on foot to provide the city of Chicago with a pay clinic, the function of which is to be diagnostic, not therapeutic. A prominent Chicago millionaire has expressed a desire to subsidize heavily such an institution if space can be provided for it on the grounds of one of the universities. It is suggested that the diagnostic work be done by the faculty of the medical school who are on salary and the ready made diagnosis go with the patient to his family doctor who will prescribe the treatment. Treatment it is presumed will remain the function of the physician in general practice.

Such a course would eventually eliminate a certain class of medical specialist namely the laboratory specialist, but it would not materially cheapen medical service as designed by the originators of the scheme. The divorcing of diagnosis from the direct care of the patient would be highly undesirable for both patient and physician, partly because diagnosis and treatment should go hand in hand, and treatment should be changed or varied depending on the patient's condition. The finality of diagnosis must always rest with the clinician and never with the laboratory worker.

RABIES

In this number of the Journal there appears a complete symposium on the subject of rabies which is discussed by a clinician, the chief of the Pasteur Institute, Ann Arbor, a pathologist, a veterinarian, and physician representing one of the largest pharmaceutical houses in the world. One commonly associates rabies with so-called "dog days" and no one ever thinks of dog days apart from late July or August. Many of our readers will be surprised to know that rabies is a disease which is apt to be at its height in the early spring months. There are many factors at present which tend to increase the spread. The automobile and the tourist must be reckoned as factors, in as much as so many automobiles traveling through the country carry dogs. The disease is transmitted to other animals and too often has its human victims.

The writer who was present and heard the symposium and has read the papers as they appear here, has to confess his surprise as to the real menace of hydrophobia has become in this state. The dog has been for generations, perhaps centuries, a companion to man and there is little use in advocating the elimination of dogs as a means of overcoming the menace. The attention of the reader is called to the importance of vaccination of pets and particularly of dogs, for the protection of not only children and adults but likewise of the animals themselves.

BEAUMONT LECTURES

The Beaumont lectures are delivered each year in Detroit under the auspices of the Wayne County Medical Society. The expense of the lectureship is defrayed by a fund set aside during the war and by mutual consent of the donors appropriated for the purpose mentioned. The name Beaumont is known to every physician in the state of Michigan. It is significant that the seven lectures already given have been on some aspects of physiology, which had not up to the time found their way into the textbooks. This lectureship is a fitting memorial to a man Osler called the "backwoods physiologist."

The lecturer this year is Dr. Richard of Philadelphia who has done outstanding work on the kidney which might be styled "Never Aspects of Renal Physiology." The date for the Beaumont lectureship is a month later than usual, namely Monday and Tuesday the 25th and 26th

of March. The first lecture will be on Monday evening, the second of the series Tuesday, 11-12 a. m. and the third lecture Tuesday evening. A cordial invitation is extended to the members of the Michigan State Medical Society to be present at these lectures. The subject is one of paramount interest which has a wide appeal.

SAYINGS OF A SEPTUAGENARIAN

Probably there is no man better known to the profession of this state than Dr. C. B. Burr of Flint, Michigan, who has proved himself a real friend of this Journal. Dr. Burr is blessed with a happy faculty of thinking inspirational thoughts and expressing himself in an epigrammatic style which arrests the reader's attention and puts him in good humor. In Dr. Burr's moments of relaxation he has penned a very delightful brochure which he has called, "Sayings of a Septuagenarian;" and it must not be forgotten though Dr. Burr has retired from active work, his profession as neurologist and psychiatrist, he has by no means been idle, as the voluminous work the new History of Medicine in Michigan is ample evidence. We take great pleasure in presenting Dr. Burr's philosophy to the readers of this Journal.

* * *

Aptitude frequently falls far short of aspiration.

* * *

The borderline 'twixt faith and fanaticism is indistinct. Likewise that between salutary self-interest and sordid self-indulgence.

* * *

Relative value of sense and sentiment are not determinable. So-called thinking is too often an expression of emotional response and bears small resemblance to weighing, measuring and comparing.

* * *

Application and applause are healthful and stimulating, adulation and hurrahs wasteful and inexpedient. The output of emotionality among Americans requires stabilizing. In such event it would carry farther and be more effective for happiness.

* * *

Notwithstanding so-called "forgiveness," the buried impression of a rank injustice will be revived from time to time.

* * *

Therefore, to "ignore" as far as possible, and through exercise to develop a helpful sense of humor in an irritating situation, constitute the wiser policy.

* * *

Perfection is obviously unattainable, and would be objectionable if attained, through alienating human and neighborly interest from its possessor. The recognition of kinship in faults is unifying.

* * *

Philosopher and peasant are alike completely

ignorant of the remote past and of the entire future—of beginning and of the end.

Many phenomena are apparent to the former and relatively few to the latter. They may be interpreted on the basis of trained observation in the one case or dense superstition in the other.

As to the ultimate causes, all is speculation in either case. These pertain to the realm of the unknowable.

* * *

Faith that, literally, can move mountains, is in discord with human experience. Nothing aside from earthquakes has proven itself competent for this undertaking.

* * *

Confusion in the use of the terms "faith" and "belief" is almost universal. Simple "faith" is closely related to human happiness. The falsely so-called "belief" is on the contrary often arrogant and impels to bellicosity and intolerance.

Cynicism, subtly employed, is often mistaken for argument.

* * *

Of many commonly used words, it may be said that they represent no actual human experience. "Consistency," for example, was never in completeness attained in a human life. It is rarely exemplified in conduct or in the man-made laws governing behavior and determining judicial procedure.

"Equality" is another. There is no equality in brain, in physique (even twins may be differentiated), in aptitudes, in accomplishment, even in opportunity. One's life is his own and environment of two individuals in the same family is not identical. Furthermore, no two objects in nature or art are "equal." This might seem like hair-splitting except for a recent concrete example—the claim of Japan before the formulators of the League of Nations for racial equality.

Is the so-called "culture" among white races universally regarded "superior"? Direct this interrogatory to a Chinese or Hindu philosopher and observe the reaction—a shadow of cynicism over a placid physiognomy.

EDITORIAL NOTES

Abraham Colles born 1773, died 1843, was professor of surgery for 32 years in Dublin, Ireland. He is perhaps most widely known for his original description of the fracture of the carpal end of the radius which bears his name.

SEA FEVER

I must down to the seas again, to the lonely sea
and the sky,
And all I ask is a ship done up to look like the
land that's dry,
With a palm lounge and a ballroom floor and the
loose legs shaking,
And a bedroom suite with a bath complete and
a bed for the morrow's waking.

I must down to the seas again, for the call is
come from afar,
I can hear the tinkle of ice again in Ye Olde
Englyshe Cocktaile Barre;

And all I ask is a man's hand (say, "three no trumps" or over),
And a partner with sense to understand that
we're both of us well in clover.

I must down to the seas again, to the mariner's
restless path,
Where the radiators line the way to the Cafe
and Turkish Bath;
And all I ask is for marble halls with an orchestra
skilled and tireless,
And a square meal and an arm chair and the
news of the day by wireless.

—Manchester Guardian.

With apologies to John Masefield.

Those who cross the Atlantic on medical pilgrimages will appreciate this parody on Masefield's rugged poem.

WHAT YOU OWE

(The Wisconsin Medical Journal)

"I hold every man a debtor to his profession," said Bacon.

A profession is not something you join casually as you would a club, or a business organization. It isn't for joiners at all. There is no question of deciding periodically whether to renew or resign. Once in, you are in for life, generally speaking. You accept the tenets of the profession and in doing so, you enter into partnership with all the other members. Above every selfish gain is the obligation to serve the profession, its doctrines, and its members as they serve you. It may be a bit bromidic to add that there is a great and selfish joy in serving one's profession. Serving for the glory of the profession, not for one's own glorification and for a narrow and immediate profit.

Live we must. And living reasonably well and befitting the status of a professional gentleman is an obligation to that profession. But this is a far cry from the practice of one's profession as a trade or business, or of estimating honor by the distance one gets on financially. And inasmuch as the business interests of our vocation are advanced beyond their reasonable consideration so do the professional interests recede.

COMMENDS M.S.M.S. STUDY OF HOSPITAL PROBLEM

(The Wisconsin Medical Journal)

To those who are interested and who are honestly anxious to arrive at an understanding and to form an unbiased opinion I would suggest obtaining a copy of the final report of the committee, "To Survey and Study the Problem of Hospital Charity in Michigan Hospitals," appointed by the Michigan State Medical Society. Conditions in Michigan are very similar to those in Wisconsin. The Michigan committee has done valuable work and is to be complimented. A knowledge of the committee's analysis of conditions in its state will illuminate our own and would lessen adverse criticism in our state materially. It will make for a deeper insight and would make an impartial solution of our own problems much easier. Please get one of those reports and study it, so that when this subject again is brought up for discussion, we all may be well acquainted with the facts—President Wisconsin Medical Society.

THE COST OF SICKNESS

(Calhoun County Medical Bulletin)

Medical men as well as the world at large are keenly interested in the cost of being sick. It is not only a medical problem, but it is economic, as well as social. Sickness is getting to be a luxury. The poor cannot afford it, and the great middle class of wage earners find it a burden. As it stands at present the doctor and the hospital are standing the expense of the sick poor. The rich are made to contribute somewhat to the load of both the doctor and the hospital. But this puts the doctor in a bad light with an intelligent class who knows they pay more than their share. The high cost of being sick is forcing the public into the idea that sickness pays no dividends, and the sooner it sets about seriously to study applied sanitation and disease prevention the sooner relief will come to an ailing world. If the money expended today in relieving preventable disease and suffering could be diverted into public health education and disease prevention the problem of the cost of sickness would be largely solved.

TECHNICIANS REGISTRY

In accordance with the trend of the times, the practice of medicine is utilizing more and more the services of trained lay help. The advent of the laboratory as an indispensable aid to the diagnosis of disease has created a new specialty in medicine; that of clinical pathology. In order to carry on the numerous technical tests required in scientific diagnostic procedures, the laboratory director has found it necessary to train the technical personnel. With the standardization of hospitals and the urgent call for qualified laboratory assistants there has arisen a demand for proper standardization of the preliminary education and technical training of those enrolled in this new profession. There has also been a desire on the part of those engaged in this useful calling to raise their status, similar to the evolution of the trained nurse of a generation ago. This want is now being taken care of by a national organization consisting of a body of men who are most vitally interested in elevating the intellectual and technical status of laboratory workers. The American Society of Clinical Pathologists has taken upon itself the task of organizing a registry of technicians with rules under which those qualified by education, technical instruction, and moral character will receive a certificate.

The subject is of interest to physicians in every field of endeavor as many of them are desirous of securing the services of technicians to carry on the routine laboratory procedures.

There is no doubt that the elevation of the laboratory technician to the status of a respected and useful calling will be a great help to the medical profession, to the patient, and to the scientific practice of medicine.

The headquarters of the registry of technicians of the American Society of Clinical Pathologists are located in the Metropolitan building of Denver, Colo.

Another very desirable feature of the registry is the facilities it offers in finding suitable placement for registrants and in aiding physicians to find desirable applicants.

Any technician who is interested in joining with Dr. R. G. Owen, local registrar, 507 Stroh Bldg., Detroit, Mich.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. R. R. Smith, Grand Rapids, spent part of January and February in Arizona.

Dr. F. C. Warnshuis, Grand Rapids, has been appointed as medical director of the Professional Underwriters Corporation Insurance company.

Dr. R. F. Webb, Grand Rapids, was selected as chief of staff, Butterworth hospital for a two-year term, commencing February 1st.

Dr. and Mrs. N. A. Herring of Niles, Michigan, are spending part of the winter at San Antonio, Texas.

Dr. W. H. Marshall of Flint, Michigan spoke on the subject "Pain in Relation to Heart Disorders" before the Jackson County Medical Society on January 22nd.

Dr. J. D. Bruce, Ann Arbor and Dr. B. R. Corbus, Grand Rapids, are listed among a goodly number of Michigan doctors "Hooverizing" in Florida for a few weeks.

Dr. L. J. Hirschman, president of the Michigan State Medical Society broadcasted a health lecture at the American Association headquarters in Chicago over station WBBM on the subject of the "Treatment of Rectal Diseases by the Irregular."

Dr. George E. McKean and Dr. L. J. Hirschman of Detroit are on the program of the Muncie Academy of Medicine, Muncie, Indiana. Dr. McKean January 15th for the subject "The Treatment of Pneumonia," and Dr. Hirschman for March 5th.

Dr. Carl Huber, dean of the graduate department of the University of Michigan addressed the Calhoun Medical Society at the annual meeting of the society. His address dealt with the historical development of the medical department of the University of Michigan.

The first regular monthly meeting of the Washtenaw County Medical Society for 1929 was held January 30th, at St. Joseph's Mercy hospital, Ann Arbor, Mich. The program discussed "The Present Status of the Serum Diagnosis of Syphilis," by R. L. Kahn, M. D., Sc. D. The discussion was held by Doctors Margaret Armstrong and Cyrus C. Sturgis.

RECENT GRADUATES OF DETROIT COLLEGE OF MEDICINE

Dr. Donald C. Beaver, who has been second assistant in the department of pathology, has received the appointment of first assistant in pathology at the Mayo Clinic under Professor Robertson.—Dr. Watson Beach has recently received his master's degree of surgery from the Mayo Foundation.—Dr. Notery Gleason is a candidate for the degree of Ph. D. in dermatology at the Mayo Foundation.—Dr. Catherine Corbeille is a candidate for the Ph. D. degree in physiology.

Her thesis will concern the physiology of sound and its application as a therapeutic measure.—Dr. Harold Kuhlman is a candidate for a degree in internal medicine.

The gold medal of the Phi Lambda Kappa Fraternity, Incorporated, with a substantial cash prize was won by J. H. Masserman who presented the same thesis in this competition that was offered for graduation in pathology. The subject selected was "The Pathology of the Thyroid Gland." There were 32 competitors from as many states who took part in the contest. The medal was presented by Professor Schamberg at Philadelphia. In the presentation address Professor Schamberg chose to remark that the award and the thesis were well fitted for a man who had been long in the medical profession. It is particularly gratifying that Mr. Masserman was awarded the medal because the entire work was done during a period of illness which compelled him to go to California for a considerable length of time.

DEATHS

DR. GEORGE S. NEY

Dr. George S. Ney an honorary member of the Saint Clair County Medical Society passed away at his home in Port Huron, Mich., Thursday, January 24, 1929.

Dr. Ney was born near Guelph, Ontario, Canada, March 14, 1854. After attending school near his home he became a teacher for four years. After attending lectures at the Toronto School of Medicine, Dr. Ney went to New York city to complete his education at the Bellevue hospital.

Dr. Ney came to Saint Clair County in 1880 and after practicing medicine and surgery for about 15 years at Yale moved to Port Huron. During the past 33 or 34 years he has lived and practised medicine and surgery in Port Huron. Miss Ada E. Ney and Mrs. Frank L. Ryerson, daughters survive Dr. Ney.

Dr. Ney was beloved and respected by many professional associates. His sterling honesty and conservatism in the practice of medicine together with his rare surgical ability built for him a splendid reputation in his home community.

His many associates in the Saint Clair County Medical Society will long revere his memory.

DR. HENRY BISHOP LANDON

Dr. Henry Bishop Landon died January 15th at the home of his son Dr. Herbert W. Landon of Monroe, Mich. He had attained the advanced age of 88 years. The cause of death was bronchial pneumonia. Dr. Landon had practised medicine for over a half a century at Bay City. He received his early education in the Monroe schools

and had taught school before entering the University of Michigan where he obtained his B. A. in 1861. This year he entered the Seventh Michigan Volunteer Infantry as a first lieutenant. He took part in several battles during the early months of the Civil War, where he was severely wounded at the battle of Fair Oaks. On recovery he again entered the University of Michigan where he graduated in medicine. He practised five years in Denver before locating in Bay City as mentioned. Dr. Landon was a member of the Military Order of the Royal Legion, a charter member of the Michigan State Medical Society, and a member of the American Medical Association. He was twice married. Of the four children, three of his first marriage, and one of his second, only one Dr. H. W. Landon survives. The remains were cremated at the Woodmere crematorium in Detroit, Mich.

COMMUNICATIONS

PRESIDENT RESPONDIT

The President of the Michigan State Medical Society has received a letter from Dr. S. G. Jett of the department of Public Health of Reidsville, North Carolina, urging the broadcasting of a message from Dr. George F. Buchan, a prominent British physician who has returned after touring the United States. The message is as follows:

"I have just toured the states, investigating the public health conditions in America. I noticed that many people finished their meal with sweets. This is hygienically unsound as sweets stick to the crevices and get in between the teeth and lead to fermentation and dental decay.

"The correct way to finish a meal is with fruit, coffee and a cigarette. The fruit hardens the gums and cleans the teeth; the coffee stimulates the flow of saliva in the mouth and acts as a mouth wash; while finally the cigarette disinfects the mouth and soothes the nerves."

This has inspired the following communication from Dr. Hirschman:

S. G. Jett, M.D., Commissioner,
Dept. of Public Health,
Reidsville, N. C.
Dear Dr. Jett:

As President of the Michigan State Medical Society I wish to acknowledge your letter of December 18th addressed to one of my predecessors, Dr. Jackson.

I am very much interested in the opinion of Dr. Buchan of London, and his conclusions are rather amusing to one who has been in close contact with many of his country-men.

His statements will undoubtedly be very comforting to vendors of fruit, coffee and cigarettes. I will await with interest the quotation of his statements in advertising matter of some of these interests.

If many of our British friends were as familiar with the tooth-brush and its uses as our citizens have been taught by oral hygienists, he would not have made the statements which you have so kindly sent me.

From ocular and olfactory evidence I can as-

sure you that there is a great field for tooth and mouth hygiene in Great Britain.

I should hesitate very much to ask the growing youth of America to discard the tooth-brush and replace it with a cigarette.

Louis J. Hirschman, M. D.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

In reply to your letter of January 18, regarding impressions received at our last conference of County Secretaries, held at the headquarters of the American Medical Association in Chicago.

I want to express my hearty approval of the wisdom of the plan to have held this conference at A. M. A. headquarters. I previously had a faint idea of what our A. M. A. meant to the medical profession of the United States, but not until I had seen all the different departments and viewed at close range how hard and earnestly these employes of the medical profession of the United States are working for the interests of the physicians of the country, as well as to advance the health of the general public, did I come to a realization of what a colossal task the A. M. A. is constantly performing.

There is one little bill that in future I will always meet promptly and cheerfully, and that is my A. M. A., and fellowship dues. I will at least give our great A. M. A. this small support.

I certainly got a great inspiration from meeting with and seeing the big men of our profession who so unselfishly give themselves to the betterment of their fellow practitioner and the public in general. It is encouraging and enlightening to know that in the mad race for selfish gain, that there is a great organization in the good old U. S. A. which stands guard over the health of the nation and constantly guarantees that the latest development and discoveries of science will be gratuitously laid at their door. It is a good omen, and we physicians should be proud of our part in the plans and activities of this great organization.

I am sure that every County Secretary who attended will be a better County Secretary in every way. Personally, I am going to make a strenuous effort to secure a 100 per cent support of all the regular ethical practitioners in my counties. We have a few physicians in our territory who are not members of our County Medical Society, but who are eligible to join, and believe me, I am going to work on those birds 100 per cent. When a state licenses a man to practice medicine, it seems to me that as little as he can do, would be to support organized medicine, by belonging to his County, State and National Society.

Deeply appreciating the opportunity to attend the recent conference, I am

Yours very truly,

T. P. Wickliffe, Secretary.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I beg to acknowledge your kind and thoughtful reference to the recent tragedy in my home. The remembrance of my medical friends at this time is fully appreciated.

Sincerely yours,

C. C. Clancy.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

Of the many disappointments I have encountered in passing through this vale of tears, I do

not recall one much greater than that of missing the Chicago meeting of Michigan Medical Society Secretaries. I had made reservations and was all set to go when my wife was taken sick with influenza, and on or about the time the meeting occurred, she was a very sick woman. Happily, she has weathered the storm and is gaining daily, for which I, of course, am duly thankful.

I shall be interested to know what took place at the meeting.

Yours very truly,
W. E. Ward.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I wish at this time to convey to you my deep appreciation for the splendid time enjoyed at the recent conference held in Chicago. It was my first experience as a visitor to the headquarters of the American Medical Association and I must say that it has left a lasting impression upon me. The cordiality shown by all of the officers of the Association was splendid and their talks very illuminating and instructive. The visit through the Association building was very enlightening, as I had never realized the tremendous amount of work that is being turned out by the different departments.

I personally profited a great deal from the conference and hope to be able to transmit on to the local County Society some of the valuable suggestions received.

Again thanking you personally for your many courtesies, and all the officers of the Association who contributed to the success of the conference, I am

Yours very truly,
Russell L. Finch, Secretary,
Marquette-Alger County Medical Society.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I have your letter of recent date asking for my opinion of the recent meeting at Chicago. I do not know of any place where more real good could be obtained from an affair of that kind than at the A. M. A. Headquarters. I am for another meeting of the same kind at the same place any time. With my very best regards I am

Yours very truly,
E. J. Evans, M. D.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I enjoyed immensely the recent annual meeting of the County Secretaries in Chicago.

I am sure that I gained more information about the functions and activities of the American Medical Association in one short day than could be gained otherwise in ten years.

The spirit that prevailed makes one look forward to our next annual conference with added enthusiasm.

Yours very truly,
R. B. Fast, Secretary.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

Your letter of January 18th at hand regarding impressions and reactions of the recent conference held at Chicago.

I enjoyed as well as profited immensely by the conference. The ideas presented by the various

speakers regarding the duties of the County Societies were very instructive. The constructive criticism brought out many good points.

I was astonished at the quantity and quality of work that is carried on at A. M. A. headquarters, and I do not believe it is fully appreciated by the medical profession.

The courtesies extended by the personnel at the A. M. A. headquarters was greatly appreciated.

Very truly yours,
Geo. F. Swanson, M. D.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

I wish to express my appreciation of your efforts in bringing about the Conference of Secretaries of the County Medical Societies of the state. It was a most interesting and instructive session, and my only regret is that I was unable to get there in time for the first day's program.

While I had heard much of the men in charge of the affairs of the American Medical Association, and of their equipment, I did not appreciate as I do now, the remarkably cordial and efficient personnel or the completeness of their plant. With such a remarkable organization anxious to be of service, I for one feel that I have neglected numerous opportunities for assistance in the past, and plan to know the A. M. A. headquarters better in the future.

The program Thursday morning was so fine that I regretted more than before that I missed the first day.

It would be superfluous for me to attempt to comment on that program Thursday morning. It was all so fine, and certainly demonstrated that they have the right men in the right places at headquarters.

The tour of the building was instructive. Indeed, I went back to the departments I wished to investigate further and believe I was the last Secretary to leave.

Should I still be eligible when you have another such conference, you may be assured that I will be there if possible.

Fraternally yours,
C. R. Elwood, M. D.

F. C. Warnshuis, Secretary of the Michigan State Medical Society:

The conference of the Michigan Secretaries of County Medical Societies was a pleasant and profitable occasion for me.

The dinner on January 16 impressed me with the cordiality of the state and national officers and their interest in our problems. I wish that Dr. Harris could have gone on further with his discussion of economics for the doctor and the cost of medical care. We doctors are too often the victims of misguided philanthropy. Dr. West's reminder of the doctor's obligation to deliver adequate scientific service was also to the point.

The visit to headquarters impressed me with the magnitude of the A. M. A., its activities, and the high quality of its work. I am more than ever proud of my connection with the A. M. A.

Meeting the heads of departments and seeing where and how they work, showed me what the Society offered to every doctor and also to the general public. I am sure that I shall in the future make much greater use of these services and also tell my patients about the information and help that is available to them.

Yours very truly,
Florence Ames, M. D.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

EDITOR: Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

MINUTES OF THE EXECUTIVE COMMITTEE MEETING

The Executive Committee of the Council held its February monthly meeting in the Pantlind hotel, Grand Rapids, on February 4, 1929, at 6 p. m.

Present: R. C. Stone, Chairman; J. D. Bruce, B. R. Corbus, Geo. L. Le Fevre, L. J. Hirschman, President; F. C. Warnshuis, Secretary; Guy L. Kiefer, Chairman of the Legislative Commission.

1. Dr. Kiefer made an extended report upon the legislative situation. Same was approved and the requests of the Chairman concurred in.

2. The Secretary presented a tentative list of requests for Post-Graduate Conferences during 1929. Upon motion of Dr. LeFevre-Bruce, the policy for 1929 was determined as follows:

That one Conference will be held in each Councilor district in the lower peninsula, and that exceptions will be made only when requests for additional Conferences are approved by the Executive Committee. It being understood that Conferences that are to be held in Detroit and Ann Arbor shall be construed as State Conferences and not as District Conferences.

3. The request of the Upper Peninsula Councilor for Conferences in three designated localities was received and the Secretary was instructed to secure additional information before final action is taken thereon at the next monthly meeting of the Executive Committee.

4. The Secretary was instructed to reply to the communication received from the Wisconsin State Medical Society and to advise them that at the present time the suggestion extended would not be entertained.

5. President Hirschman reported upon his interview with the officers and directors of the Michigan Hospital Association relative to establishing a combined conference on Nursing Education. On motion of Dr. Bruce-Le Fevre, the President was di-

rected to appoint a committee to meet a similar committee of the Michigan Hospital Association for a preliminary conference and outlining of policy.

6. The Secretary presented several communications alleged to have been distributed through the state by Dr. L. C. Donnelly of Detroit. The Secretary was instructed on motion of Corbus-Bruce to secure a legal opinion upon these communications.

7. The Executive Committee devoted several hours to a thorough discussion of the problem of remuneration of the State Secretary. At its conclusion no agreement having been reached, on motion of Bruce-Corbus the Chairman of the Council was requested to call a special meeting of the Council for further consideration of the subject.

The meeting adjourned at 11 p. m.

F. C. Warnshuis, Secretary.

Immune: Eventually, it seems, an individual or coterie of individuals gain the delusion that they are sufficient unto themselves and immune to the code. This was evidenced recently when the Portland, Oregon, daily newspaper came out with a full page write-up of the proposed cancer research organization, sponsored by Dr. C. H. Mayo and lauding the honor conferred on Dr. Coffey in being appointed on the advisory board. Extra size photos of Coffey and Mayo headed this full page display. We feel certain that the copy did not come from a reporter's typewriter and the editor did not contribute gratuitously the space used. We are wondering if the local county society is so dormant that it does not know how to prefer charges. Recently we heard a distinguished authority state that there were about 100 men in this country whose usefulness in the medical profession had passed and that something should be done to "muzzle" them. If someone brings out the muzzle there are quite a few ready to help to adjust it. The Portland profession might well start preparing the muzzle—they now have a basis.

The Department of Post-Graduate Medicine

of

The University of Michigan

In Affiliation With

THE MICHIGAN STATE MEDICAL SOCIETY

Presents a preliminary announcement of a Post-Graduate Program.

Detroit, Michigan.

Beginning May 27, 1929—Four-week intensive courses.

Internal Medicine
General Surgery
Modern Laboratory Methods
Surgical Anatomy

In conjunction with The Alumni Association
of the Detroit College of Medicine and Surgery.
The Second Annual Post-Graduate Clinic,
June 17 and 18.

UNIVERSITY HOSPITAL

Ann Arbor, Michigan

Beginning April first and continuing through May and June, two-week intensive courses will be given in the technic of the Kahn test. Personal advanced courses of longer periods in Serology. Courses in general medical laboratory methods. (Under the direction of Dr. R. L. Kahn, Director of University Hospital Medical Laboratories).

ROENTGENOLOGY

March 15th

Six courses are offered. With the exception of Course 1, only those with previous X-ray experience will be admitted.

Course 1—4 weeks. The study of normal X-ray anatomy.
Course 2—8 weeks. Acute and chronic bone and joint pathology.
Course 3—8 weeks. Acute and chronic pulmonary and cardiac conditions.
Course 4—8 weeks. The gastro-intestinal tract.
Course 5—8 weeks. Superficial and high voltage therapy.
Course 6—4 weeks. Ultra-violet radiation and diathermy.

(Under the direction of Dr. P. M. Hickey, Director of
Roentgenological Laboratories).

A detailed description of the above courses, together with the program of Post-Graduate Conferences, will be published in the April and May numbers of this Journal. For further information apply to the Director of Post-Graduate Medicine, University Hospital, Ann Arbor, Michigan.

GOOD WORK—BAY COUNTY

On February 11, Bay County Medical Society issued Volume 1, No. 1, of a 28-page and attractively designed covered bulletin. Its size is 8x11. Novel in make-up and a goodly number of advertisements. It will be issued twice a month. Thus in one big jump the Bay County Bulletin leads off in style, contents and novelty and passing the bulletins of other Michigan County Medical Societies, it assumes first place. Our congratulations and applause are extended to the officers and members of the Bay County Medical Society for this forward step of activity.

ADVERTISEMENTS

Your Journal is possible because of revenue received from advertisements. One of our chief difficulties is that advertisers claim that our Journal does not bring replies, even when they use coupons and offer samples free. They claim they receive a greater number of replies from advertisements run in other state journals than they do from Michigan. Are our members failing to patronize our advertisers. If so, there will be but one end result—a decline in advertising income.

The request is made anew to patronize our advertisers. Send for their samples and their literature, or just write and tell them you have read their ad. It is vital to your Journal's financial welfare.

PRESCRIBING MORPHINE

Regretfully do we read each month of some doctor being arrested for violation of the federal narcotic law. Sometimes the arrest is for wilful violation, again it is brought about by ignorance. To the latter end we submit the following rulings for information and guidance.

Revoking Pro-Mimeograph, Pro. No. 316, Dated May 21, 1923, and Outlining Treatment of Narcotic-Drug Addiction Permissible Under the Harrison Narcotic Law.

To Narcotic Agents in Charge and Others Concerned:

Pro-Mimeograph, Pro. No. 316, dated May 21, 1923, is hereby revoked, and the following outline of procedure to be followed in prescribing and dispensing narcotic drugs is issued for the guidance of narcotic agents in charge, and others concerned. This pamphlet is intended to be advisory only and to anticipate and answer questions arising in the minds of practitioners in regard to the law and regulations governing the prescribing and dispensing of narcotic drugs as interpreted by the courts.

The regulations governing this subject are contained in article 85, regulations 5, and read as follows:

Purpose of issue.—A prescription, in order to

be effective in legalizing the possession of unstamped narcotic drugs and eliminating the necessity for use of order forms, must be issued for legitimate medical purposes. An order purporting to be a prescription issued to an addict or habitual user of narcotics, not in the course of professional treatment, but for the purpose of providing the user with narcotics sufficient to keep him comfortable by maintaining his customary use, is not a prescription within the meaning and intent of the act; and the persons filling and receiving drugs under such an order, as well as the person issuing it, may be regarded as guilty of violation of the law.

Explanations.—Exceptions to this rule may be properly recognized in the treatment of incurable disease, such as cancer, advanced tuberculosis, and other diseases well recognized as coming within this class, where the physician directly in charge of a bona fide patient suffering from such disease prescribes for such patient, in the course of his professional practice and strictly for legitimate medical purpose, and in so prescribing, indorses upon the prescription that the drug is dispensed in the treatment of an incurable disease; or if he prefers he may indorse upon the prescription "Exception (1), article 85"; (2) a physician may prescribe for an aged and infirm addict whose collapse would result from the withdrawal of the drug, provided he indorses upon the prescription that the patient is aged and infirm, giving age; or if he prefers he may indorse upon the prescription "Exception (2), article 85."

GENERAL

It is impossible to state an inflexible rule which will cover all cases, and this outline must, therefore, be general in nature and subject to modification through further interpretation of the law by the courts. The bureau is not charged with the duty of laying down any fixed rule as to the furnishing of drugs or the frequency of the prescriptions in any particular case. This responsibility rests upon the physician in charge of the case. While the primary responsibility rests upon the physician in charge, a corresponding liability also rests upon the druggist who knowingly fills an improper prescription or order whereby an addict is supplied with narcotics merely for the purpose of satisfying his addiction. Caution should be exercised to avoid being imposed upon by unscrupulous persons, and too much credence should not be given to the unsupported statements of the addict himself, because the confirmed addict will go far beyond the truth in an attempt to secure an ample supply of narcotic drugs with which to satisfy his cravings.

The good faith of the physician and the bona fides of his treatment in a given case will be established by the facts and circumstances of the case and the consensus of medical opinion with regard thereto, based on the experience of the medical profession in cases of similar nature. Physicians will be charged with violation of the law if, through carelessness or lack of sufficient personal attention, the patient secures more narcotic drugs than are necessary for medical treatment and devotes part of his supply to satisfy addiction.

USE OF NARCOTICS IN THE TREATMENT OF DISEASE WITHOUT REFERENCE TO THE QUESTION OF ADDICTION

Without reference to the question of addiction, a physician acting in accordance with proper medical practice may prescribe or dispense narcotics

for the relief of acute pain or for any acute condition, such as influenza, pneumonia, renal calculi, broken limbs, etc.

USE OF NARCOTICS IN THE TREATMENT OF INCURABLE DISEASE

A reputable physician directly in charge of bona fide patients suffering from diseases known to be incurable, such as cancer, advanced tuberculosis, and other diseases well recognized as coming within this class, may in the course of his professional practice, and strictly for legitimate medical purposes, dispense or prescribe narcotic drugs for such diseases, provided the patients are personally attended by the physician who regulates the dosage, and prescribes no quantity greater than that ordinarily recognized by members of his profession to be sufficient for the proper treatment of the given case. The danger of supplying persons suffering from incurable diseases with a supply of narcotics must be borne in mind, because such persons may use the narcotics wrongfully, either by taking excessive quantities or by disposing of a portion of the drugs in their possession to other addicts or persons not lawfully entitled thereto. The physician should indorse upon the prescription that the drug is dispensed in the treatment of an incurable disease, or if he prefers he may indorse upon the prescription "Exception (1), article 85."

USE OF NARCOTICS IN THE TREATMENT OF ADDICTION ONLY

Mere addiction alone is not recognized as an incurable disease. It seems necessary, however, to divide the addicts not suffering from an incurable disease into two classes: (a) Those suffering from senility or the infirmities attendant upon old age, who are confirmed addicts of years standing, and who, in the opinion of a reputable physician in charge, require a minimum amount of narcotics in order to sustain life; and (b) those whose addiction is not complicated by incurable disease or by the infirmities attendant upon old age.

(a) *Aged and infirm addict.*—Addicts suffering from senility or the infirmities attendant upon old age and who are confirmed addicts of years standing may be, for the purpose of enforcing the law, treated as addicts suffering from incurable diseases. In such cases, where narcotic drugs are necessary in order to sustain life, a reputable physician may prescribe or dispense the minimum amount necessary to meet the absolute needs of the patient. In this class of cases the physician issuing the prescription should make a statement on the prescription to the effect that the patient is aged and infirm, giving age, and certifying that the drug is necessary to sustain life, or, if he prefers, he may indorse upon the prescription "Exception (2), article 85."

(b) *The ordinary addict.*—It is well established that the ordinary case of addiction yields to proper treatment, and that addicts will remain permanently cured when drug taking is stopped and they are otherwise physically restored to health and strengthened in will power. A physician may, in the course of his professional practice only and in accordance with the consensus of medical opinion, afford temporary relief to an ordinary addict whose condition demands immediate attention by prescribing or dispensing the minimum quantity necessary to prevent his collapse and enable him to reach a hospital, institution, or place where treatment under proper restraint is to be undertaken. Such cases should

be cautiously handled and the physician in charge should satisfy himself that the narcotics thus furnished are not to be diverted for an unlawful purpose, that steps looking toward such treatment actually have been or promptly will be taken, and that the conditions are such (usually indicated by the presence of a responsible accompanying nurse or attendant) that the addict can not augment his supply of drug by securing additional amounts from another source. This bureau has never sanctioned or approved the so-called reductive ambulatory treatment of addiction for the reason that where the addict controls the dosage he will not be benefited or cured. Medical authorities agree that the treatment of addiction, with a view to effecting a cure, which makes no provision for confinement while the drug is being withdrawn, is a failure, except in a relatively small number of cases where the addict is possessed of a much greater degree of will power than that of the ordinary addict.

Special advice to cover cases not falling within these instructions will, upon request, be furnished by this office.

J. M. DORAN,
Commissioner.

NOTES OF THE MONTH

January witnessed the compilation of annual reports, the holding of the Council meeting and the Conference of County Secretaries. The report of that Conference was published in detail in the February Journal. We urge that if you did not read it, that you do so now. Letters from Secretaries attending were published in the February issue with an additional number in this issue.

February brought in a goodly number of dues and their receipt necessitates five separate entries and mailing of certificates.

An executive committee meeting was held on February 4.

Three violators of our medical practice laws were arrested upon evidence submitted and two other violators are being investigated.

Twice a week a conference is held with our legislative representative and new bills are carefully reviewed.

There was a gross state-wide failure to secure the desired number of signers to petitions. Yes, it's very easy to clamor about protecting, securing or defeating legislation, but when you expect the other fellow to do your mite—well, it just can't be done. Legislation in Lansing is not influenced that way. But more on this subject at a later date.

Just now our Society is pledged to fourteen (14) distinct activities that are of intimate concern to every doctor. These activities are not self-propelling and do not "just grow". A majority of members have but little conception of the time

requisite to supervise details—neither do they appreciate what is being done for each member. We often wonder why such dis-interestedness.

Three suits against members were settled by the medical-legal committee during the month in which payments of \$2,325, \$3,000 and \$3,250 were made by the insurance companies. All because of failure to use the X-ray. Attorney fees were assumed by the medico-legal committee. These cases are ample warning.

Legislative Commission meeting in Lansing on the 13th. Lansing creates scenes that make one wonder "Why a legislature?" Many fool doings may be observed.

A. M. A. trustees meeting in Chicago on the 21st and 22nd.

Requests for 17 Post-Graduate conferences for 1929 have been received and schedule arranged.

There are eight days of the month remaining at the time of going to press—and they will be productive of plenty work.

MIDWIVES AND OBSTETRICS

The following from the Wayne County Bulletin is of great interest:

STATE OF MICHIGAN

Attorney General's Department, Lansing
February 1, 1929.

Mr. E. E. Valentini,
Executive Secretary,
Wayne County Medical Society,
1124 Maccabees Building,
Detroit, Michigan.

My dear Sir:

You have asked my opinion as to the legal status of midwives and midwifery in Michigan, with special reference to the definition of—"practice of medicine," as defined in Section 6832, Compiled Laws of 1915.

None of the statutes relating to midwives or midwifery define the term, nor has the legislature attempted to limit their field of practice or in any other manner regulate the same unless they may be said to be physicians as defined by the section above referred to.

The provisions of Section 5038, Compiled Laws of 1915, require every—"physician, nurse or midwife who shall assist and be in charge of the birth of any infant, to treat the eyes of the infant with a prophylaxis * * *," etc.

Act. No. 343, Public Acts of 1925, makes it the duty of every—"physician, midwife or person acting as midwife," in attendance at the birth of an infant, to file a birth certificate.

A careful search discloses but one case bearing upon the question as to whether midwives are physicians within the meaning of the medical practice acts. This case is *Commonwealth vs. Porn*, 196 Massachusetts, 326, 82 N. E. 31. In this case the defendant was charged with practicing medicine and holding herself out as a practitioner of medicine. She held herself out as a midwife and practiced midwifery, but did not

claim to be a general practitioner of medicine nor was she lawfully authorized to practice medicine as provided by the Massachusetts laws. She used several prescriptions or formulas in treating her patients, which contained directions for their application, and practiced obstetrics for compensation. She was held to have violated the medical practice act, and was convicted upon these charges. The court said:

"Both medical and popular lexicographers define 'midwife' as a female obstetrics. Rev. Laws, Chap. 76, Par. 7, mentions obstetrics as one of the subjects of examination for the purpose of testing the applicant's fitness to 'practice medicine.' This goes far toward showing that obstetrics is a branch of the practice of medicine. It requires no discussion to demonstrate then when, in addition to ordinary assistance in the normal cases of childbirth, there is the occasional use of obstetrical instruments, and a habit of prescribing for the conditions described in the printed formulas which the defendant carried, such a course of conduct constitutes a practice of medicine in one of its branches. Although childbirth is not a disease but a normal function of women, yet the practice of medicine does not appertain exclusively to disease and obstetrics as matter of common knowledge has long been treated as a highly important branch of the science of medicine. * * *

"The defendant contends that the statute as thus construed is unconstitutional. Its validity cannot be questioned on this ground. The maintenance of a high standard of professional qualifications for physicians is of vital concern to the public health, and reasonable regulations to this end do not contravene any provision of the state or federal constitution. * * *

While the supreme court of this state has never been called upon to pass upon this question, it is my opinion that the reasoning applied by the Massachusetts court in the case above referred to is applicable to this question, under the provisions of the Michigan statutes.

It, therefore, follows that where a midwife holds herself out as a midwife and practices the profession for compensation, that she is a physician within the meaning of Section 6732, Compiled Laws of 1915, and must be licensed as such.

Yours very truly,

(Signed) WILBER M. BRUCKER,
Attorney General.

CIVIC AND INDUSTRIAL RELATIONS

A committee is and does what its chairman inspires. The following report indicates that our Committee on Civic and Industrial Relations is well inspired. It is just such work that enhances all our interests.

Committee On Civic and Industrial Relations

The Civic and Industrial Relations Committee of the Michigan State Medical Society held a meeting at the Palmer House in Chicago on January 16th with Doctors L. A. Farnham, C. D. Munro and H. S. Collisi present. Even though the attendance was small, much discussion took place on a number of subjects of importance and

the meeting lasted from 12:15 to 5:45 p. m. The committee discussed the following:

1. The Relationship of Industrial Medicine to Industrial Surgery in Factory Clinics.

(a) The trend of industrial activities has been to broaden the field of service to include not only medical attendance for injuries received in industry, but also to include medical attendance of employees (and their families) for diseases not incident to their occupation.

(b) Employers of the small factories engage trained nurses to have charge of the first-aid departments. There is a tendency for these nurses to render surgical attendance and medical advice, even to dispensing medicine, to employees without the knowledge or advice of a physician. This is in violation of the Medical Practice Act. A physician should be appointed medical director of such first-aid departments, taking the responsibility with the nurse acting under his direction. Larger industrial plants have full time physicians which, of course, solves the problem in those institutions.

The committee suggests that each County Society take up this problem in a near future meeting, either regular or special, and discuss the matter. The surgeons doing industrial work in each County Society are in a good position to add much information at the time the discussion takes place. The committee desires to send a questionnaire to each County Society, through the State Secretary's office, requesting a free discussion of this subject and a reply to be returned so that the committee may have a foundation from which to tabulate the information received.

It was further decided to make this question of the relationship of industrial medicine to industrial surgery "the major activity for the Civic and Industrial Relations Committee during the present year" because it seems to involve a situation *approaching that of State Medicine.*

2. Abatement of imposition upon physicians by life insurance companies in furnishing statements of present physical condition of applicants for insurance.

Life insurance companies are more and more prone to request in writing from physicians a statement concerning a proposed applicant who is or has been a former patient of the physician. The physician has rendered previous medical or surgical attendance and is asked to state the date, diagnosis, description of opera-

tion and physical examination of the applicant in question, and to further state his knowledge of the applicant's present physical condition. The physician may be, but usually is not, a regularly appointed examiner for the company from whom the request is made. No fee is paid the physician for this information, which is virtually a statement of a medical opinion regarding the applicant's physical condition. The committee believes that at least a fee equivalent to office consultations of either \$2.00 or \$3.00 should be allowed the physician for these statements.

The committee is of the opinion that this question should be taken up with each life insurance company underwriting in the state of Michigan and that their reaction be obtained to the proposal that a legitimate fee be paid to the physician when rendering such reports.

3. Revision of form of health and accident insurance companies' report blanks.

Most health and accident insurance companies have forms of preliminary and final examination blanks, containing many irrelevant questions regarding the claimant and his physical condition, for which the physician receives no fee for filling out. It is admitted that every physician is required at times to fill out these blanks for his own patients and friends and does not refuse to do so because of this fact. In addition to requesting the diagnosis or nature of injury, the length of total and also partial disability, the claimant's present condition and the date on which disability should cease, it is also necessary to answer a number of pertinent questions regarding the claimant's temperature, pulse, respiration, condition of heart and lungs and even occasionally the urine analysis, for all of which no fee is paid unless collected from the claimant himself.

Is it not possible to have these forms revised to exclude all questions except those necessary to determine the length of disability?

4. *Study of free clinic situation.*

Throughout our state in the various cities there are many clinics doing charity, such as infant feeding, prenatal, orthopedic, tuberculosis, pre-school, out-patient of hospitals and various others. A number of these clinics, particularly those interested in child welfare and infant feeding, are allowing themselves to drift so that service is rendered to all who request it, including those well able to pay for the service given. Instances are reported in which patients drive up to such clinics in

their limousines and have even been attended there by their own family physicians who have agreed to serve thereon.

Just what should our attitude be toward the policies of such clinics? Should we ask the county societies to make a study of the local situations and report to us?

5. *Irresponsibility and negligence of automobile drivers in not paying for medical services to hospitals and physicians when either injured themselves, or having injured someone else.*

Every hospital and physician are caring for certain individuals who have been injured in an automobile accident. The injuries may be serious and extend over long periods of time and the expense involved is a considerable figure. The person or persons responsible for the accident in which injuries have occurred may not carry liability insurance upon his automobile and when the case has been settled it is found that the owner of the car not only does not carry insurance, but he is also irresponsible for payment of the expense.

Should not the medical profession of this state offer to the public, statistics and information to bring about suitable reaction that will cause ultimately the passing of compulsory automobile insurance laws? The information could be obtained quite readily from the hospital librarians and the individual physician could contribute much valuable data on the subject. Massachusetts has a compulsory insurance law which has been subject to much criticism by automobile manufacturers and dealers since its enactment, but it has done much to regulate the activities of the drivers. It is believed that compulsory insurance laws for automobile drivers will eventually lead to physical examinations of drivers before a license is issued. The majority of automobile accidents are found to occur with individuals who have either some physical or mental impairment.

6. *Revision of form of report blanks for compensation insurance companies.*

Compensation insurance companies have a variety of blanks to be filled out in the reporting of industrial accidents. This may be necessary because the company probably is transacting business in various states and must use blanks conforming generally to the laws of the different states.

It is believed that the Michigan Compensation Law is so written that industrial insurance company blanks may be reduced

and many unimportant questions eliminated.

This letter has been written so that each member of the committee who was not present at the Chicago meeting may have knowledge of the discussion of the various questions as above elaborated.

In order to obtain your reaction to each, will you kindly note under each topic in the space provided any remarks and send to me in the self-addressed envelope by return mail? It is the intention of the committee to devote our activities to the first, second and third subjects. However, we would like to secure an expression from you on the remaining three also.

I believe that the Civic and Industrial Relations Committee is the most important one of the Michigan State Medical Society and am very anxious to do some constructive work this year and will appreciate your help.

On account of the inability to hold frequent meetings of the committee, the Chairman wishes it understood that he is willing to do as much of the work as is possible by correspondence and will take the initiative to so proceed if it is agreeable to the other members. We will have another meeting possibly during the month of June.

Very truly yours,

Harrison S. Collisi,
Chairman, Civic and Industrial Relations
Committee.

X-RAY WARNING

During February two suits of malpractice were settled. In one a payment of \$2,325 was paid in settlement for a doctor who failed to secure an X-Ray during the treatment of a fracture and the poor end result was blamed to that negligence. In the second case \$3,250 was paid in settlement for the doctor who treated a fractured hip without an X-Ray.

In the light of these two cases in one month, our attorney urges that a warning be sounded to our members. *Our attorney advises that the doctor insist on an X-Ray in every fracture or suspected fracture. If the patient refuses then decline to treat the case.*

One becomes grossly liable if he fails to heed this advice and is headed for legal trouble and an adverse verdict. The courts have gone so far as to rule that in view of present day transportation facilities one is not excusable because in your town you do not have an X-Ray. The

burden is upon you to secure an X-Ray of all fractures.

The warning is repeated: Decline to treat a fracture or suspected fracture if your patient refuses to have an X-Ray. Withdraw entirely from the case. Unless a doctor follows this advice he may confidently expect a damage suit in his fracture cases wherein the X-Ray was not used.

LEGISLATION

At the time of going to press (Feb. 23rd), the two bills sponsored by our Legislative Commission were no longer being opposed by the chiropractors. An understanding has been accomplished. The chiropractors have accepted the requirements of the Professional Qualifications Act and include it in their law. Objection is being registered at the last moment by the osteopaths. Steps are being taken to oppose their efforts. It is anticipated that final action will be recorded during March.

The following bills, of interest to doctors, have been introduced and are receiving the attention of the Legislative Committee:

In re: Senate Bill No. 158

This is a bill to amend Act No. 306 of the Public Acts of 1927 entitled "An Act to provide for County Health Departments"; this bill adds a new section to that act which provides that when approved by the State Health Commissioner, the State Auditor General shall refund to the county maintaining a County Health Department, not to exceed 25 per cent of the cost of maintenance of such department, but that such refund shall not exceed \$3,000 per annum for any such county or health district.

This is a bill introduced by Senator Howell, at the request of Dr. Guy L. Kiefer, the Commissioner of the Department of Health.

In re: House Bill No. 54

This is a bill to amend Sections 10 and 23 of Act No. 285 of Public Acts of 1919 being Sections 5331 and 5344 of the Compiled Laws of 1915 which is "An Act to Provide for the creation of a Department of Labor, etc."

Section 10 deals with the employment of children under 15 years of age and this amendment provides "That the occupation in which such persons are employed shall be approved by the Department of Labor and Industry, as not being injurious to health or morals or unduly hazardous."

The amendment to Section 23 is in regard to increasing the power of factory inspectors to order installation of proper and adequate ventilating facilities, etc., necessary for the preservation of the health or safety of the persons therein employed.

In re: House Bill No. 55

This is a bill to amend Section 4, Part 2 of Act No. 10 of the Public Acts of the First Extra Session of 1912 being Section 5434 of the Compiled Laws of 1915.

This amendment changes the period after the injury during which the employer shall furnish

or cause to be furnished, reasonable medical, surgical and hospital services and medicines to the injured employe for a period of 180 days instead of 90 days as was previously provided.

In re: House Bill No. 26

This is a bill to amend Act No. 95 of the Public Acts of 1895 being Section 5142 of the Compiled Laws of 1915, which is "An Act to prevent the introduction of a dangerous communicable disease in any township, city or village in Michigan, except under specified regulations."

This present amendment provides that the county may construct and maintain hospitals, etc., for the treatment of persons suffering from contagious or infectious diseases in any township in said county and may transport persons and property to and from such hospitals, etc., by and under the supervision of the regularly constituted County Health Department or County Health Officer or other public authority having control thereof without the consent or special permission of the Board of Health or the health officer of any town within said county.

While in Lansing on February 19, 1929, the writer took this bill up with Dr. Kiefer and he stated that so far as his department was concerned, it was a good bill and while his department was not directly behind it, nevertheless, they were in favor of it.

In re: House Bill No. 80

This is a bill to amend Sections 2 and 3 A of Act No. 28 of the Public Acts of 1887 being Sections 11377 of the Compiled Laws of 1925 being "An Act for the requiring of a civil license in order to marry."

This bill provides blank forms for a marriage license and certificate and physician's certificate and all proper books of registration ruled for the items contained in said forms, shall be prepared by the Secretary of State and shall be furnished by him to the County Clerks of the various counties of the state in quantities needed, and in addition inserts throughout Section 2, the words "physician's certificate" wherever the same is needed.

The amendment to Section 3 A is: "No license to marry shall be filed or issued unless there shall be filed with the application for such license, a physician's certificate or certificates signed by a regularly licensed and practicing physician, certifying that such physician has made a mental and physical examination of the parties to such proposed marriage and that he finds such persons free from any mental or physical disease which would render it improper for such persons or either of them to marry."

It further provides that any physician who will make a false certificate or statement shall be deemed guilty of a misdemeanor and shall be punished by a fine of not more than \$200 or imprisonment in the county jail for not more than one year or both such fine and imprisonment in the discretion of the Court.

Another bill has been introduced that would place the burden of proof upon any defendant in a mal-practice suit. This bill is pernicious and steps are being taken to protest its enactment.

In the "Milk Bill" amendments were introduced whereby the physical examinations of employes are to be made by physicians in place of health officers.

The foregoing reflects in part the legislative situation on February 23rd.

Help! Help!: That's the cry a certain person, who edits a column in one of our dailies, uses quite frequently. We are borrowing the cry for the moment. The February Journal contained 160 pages. The largest issue yet published—a ton and a half of paper was used. This paper contained print impressions of some extremely interesting facts and information. At the present writing not a comment or a single response was evoked by that issue. And that's that.

NEWAYGO COUNTY

The annual meeting of the Newaygo County Medical Society, was held at the Kimbark Inn, Fremont, Mich. After luncheon the meeting was called to order by the president, Dr. H. R. Moore.

After general discussion the Society proceeded to the election of officers for the ensuing year.

President, Dr. D. Lettinga, Grant; vice-president, Dr. A. C. Tompsett, Hesperia; secretary-treasurer, Dr. W. H. Barnum, Fremont; commissioner of medical defense, Dr. N. D. Haas, Fremont; delegate to M. S. M. S., Dr. P. Drummond, Grant; alternate to M. S. M. S., Dr. H. R. Moore, Newaygo.

Members present, seven.

Dr. M. H. Mothersill was voted a member of the Society.

No further business being at hand the meeting adjourned.

W. H. Barnum, M. D., Secretary.

LENAWEE COUNTY

The annual meeting of the Lenawee County Medical Society was held at Dobbin's Tea Room in Adrian on the evening of January 21. Following the dinner which was much appreciated by everyone after driving over the icy roads, the following officers were elected for the ensuing year.

President, Dr. R. G. B. Marsh, Tecumseh.

Vice-president, Dr. Allan H. Veazey, Hudson.

Secretary-treasurer, Dr. C. H. Westgate, Morenci.

On retiring from the chair of secretary, Dr. Marsh gave a very interesting report of the Secretary's Conference at Chicago. Many of those present were much surprised to know of the extent of the work carried on by the A. M. A. Dr. Marsh has been one of the best Secretaries which the Society has ever had, and he received only the honor which was his due when he was elected to the President's chair.

It was unanimously voted to elect Dr. Eccles of Blissfield to honorary membership in the Society. Dr. Eccles has been one of the most active and faithful members of the County Society since its organization, and is beloved by every physician who has ever come into contact with him. He has been in active practice in this country longer than any other physician now living, though not the oldest physician in the county still in practice. He has always been like a father to the younger members of the profession, and his colleagues

take great pleasure in thus giving recognition to his sterling character and loyal friendship.

A word of appreciation is due Dr. H. H. Hammel of Tecumseh for the successful way in which he has presided over the meetings of the Society for the last three years as President. All the incoming officers feel that we will be obliged to use our fullest resources to equal the record set by Dr. Hammel as President and Dr. Marsh as Secretary during their three years incumbency of their offices.

C. H. Westgate, M. D., Secretary.

CALHOUN COUNTY

The January meeting was held at the Kellogg Inn on Tuesday, January 8, 1929. At 6:30 dinner preceded the meeting and 38 members enjoyed a social repast. At 7:45 the President, Dr. R. V. Gallagher, called the meeting to order. The Secretary's report, as printed in the Bulletin, Vol. XII., Number I, was adopted as printed. The following bills were read and ordered paid: Phoenix Printing company, \$25.25, and Croydon and Sutherland, \$10.

A communication from the American Legion requested that the Medical Society co-operate with them in the purchase of advertising space in their program in the forthcoming show to be put on in Battle Creek. On motion of Dr. Sleight, it was voted to assist them to extent of \$40. Carried.

On motion of Dr. R. C. Stone, it was voted to take care of part of the expenses of the secretary in attending the coming meeting of the Michigan County Society's Secretaries, to be held at Chicago on January 16 and 17. Carried.

There being no committee reports, the president called upon Dr. Stone to introduce the essayist of the evening, Dr. Plinn Morse, pathologist to the Harper Hospital, Detroit. Dr. Morse stated that the family doctor is the only person to properly sell the idea of the autopsy. While it does not directly benefit the patient, and certainly is no pleasure to the doctor, yet more and more people are demanding post mortem examinations in order to satisfy every possible question concerning the cause or causes of death. Certainly the development of an autopsy service by the hospitals, performed by a trained pathologist, serves as a check upon slipshod or careless diagnosis. The time will soon come when the public generally will demand post mortem examinations.

The following types of cases taken from the last five autopsies done by him were discussed:

Case 1—Boy 9, diabetes incipidus.

Case 2—Man, gastric hemorrhage due to hemorrhoidal veins of esophagus.

Case 3—Man 56, substernal goiter, secondary to adrenal adenoma.

Case 4—Man, 56, carcinoma of liver, secondary to cauliflower cancer of cardia.

Case 5—Man 60, metastatic cancer of prostate.

The paper was discussed by Doctors Harris, Eggleston, Rosenfeld, Stone, Gubbins, Mortensen, Van Camp, Kingsley, Haughey and Zelinsky.

Meeting adjourned.

Members present, 50

Harry B. Knapp, Secretary.

MONROE COUNTY

Monroe County Medical Society has had some interesting meetings this winter.

On November 15, Dr. G. Van Amber Brown, of Detroit, gave a talk on "Pelvic Inflammatory Diseases." It was illustrated by lantern slides. The

discussion of the pathology of the conditions was especially appreciated by the Society.

Dr. F. L. Perlins, of Detroit, spoke December 20, 1928, on "General Considerations in the Treatment of Diabetes Mellitus."

January 24, 1929, Dr. John R. Davis, Toledo, (125—15th street) gave a talk on "New Work in Fractures." Dr. Davis attended the clinic of Dr. Laurenz Bohler, Vienna, in 1928. He showed motion pictures of the care of fractures there. He also demonstrated a new type of wire splint devised there. All reducing and setting of fractures there is done under *local* anaesthetic, *without pain*. Casts are not padded, permitting better traction. Exercise is begun immediately, with great reduction in the period of disability. Dr. Davis has applied these methods himself and has had splendid results. This discussion was tremendously interesting. May I suggest that this talk and demonstration would be splendid to offer to the State Society at its next meeting?

Florence Ames, M. D., Secretary.

MACOMB COUNTY

The meeting was called to order by the President, Dr. A. B. Bower.

The membership committee reported favorably on the applications of Dr. R. E. Hawley of Ste. Claire Shores and Dr. Paul Gageky of Warren. Both these applicants were then elected to membership.

Dr. J. P. Isaminger of the Health Extension Division of Ann Arbor. Spoke briefly on the plan of "The Health Lecture Service." A series of five lectures on the "Health Heroes" to be given by local doctors to the local high school assemblies. Dr. G. F. Moore was appointed as a committee to act on this matter.

The Secretary was instructed to write letters of sympathy to Mrs. E. G. Folsom, and to Mrs. J. G. White expressing the regret of the Society for their respective bereavements, (Dr. E. G. Folsom and Dr. J. G. White).

Dr. Edgar Poos of Highland Park, gave an illustrated talk on "Infections of the Head." Dr. J. M. Croman, Sr., Dr. J. M. Croman, Jr., and Dr. C. F. Moore took part in the discussion that followed.

The meeting adjourned at 2:00 p. m.

J. W. Scher, M. D. Secretary.

ALPENA COUNTY

Report of meetings:—

Meeting of December 20th, 1927.

This was our regular annual business meeting and the time was devoted to, the election of officers for the ensuing year, a review of the activities of the Society for the past year and planning a program for the coming year. A committee was appointed, consisting of Doctors Belland Jackson, to draw up resolutions upon the death of our Secretary and co-worker Dr. C. M. Williams, who's recent sudden death deprived us of one of our most active members.

Following the business session a social hour was enjoyed during which, the economic and business side of medicine was freely discussed by all present. Officers for 1929 were elected as follows.

President, Dr. E. L. Foley, Alpena.

Vice-President, Dr. J. S. Jackson, Alpena.

Secretary-Treasurer, Dr. W. B. Newton, Alpena.

Delegate, Dr. S. T. Bell, Alpena.

Alternate, Dr. D. A. Cameron, Alpena.

Legal Representative, Dr. E. L. Foley, Alpena.

Meeting of January 24th, 1929.

The first regular meeting of the New Year was held following a dinner at The Temple Cafe. Meeting called to order by President Foley. Minutes read and approved. Committee on resolutions upon the death of Dr. Williams reported and the report adopted and copies ordered sent to Mrs. Williams and spread on the minutes. Application for membership from Dr. William E. Nesbitt was received and referred to a committee. Dr. Foley, legal representative, reported upon legislative matters, reporting our Senator and Representative as being favorable to our medical bills as pending in the legislature.

The scientific paper for this meeting was to have been furnished by Dr. Purdy of Long Rapids, but owing to the very severe snow storm of the previous night Dr. Purdy was unable to get into the city, necessitating a postponement of his paper to a future meeting.

Dr. Newton reported a case of acute santinine poisoning and an unusual case of mastoiditis following which Doctors O'Donnell, Foley, Cameron and Bell reported unusual cases of influenza observed during the recent epidemic.

Meeting or January 31, 1929.

About noon on the above date the Secretary chanced to learn that Dr. Don M. Griswold, deputy state commissioner of health, was in our city for the purpose of addressing the students of our County Normal and upon getting in communication with Dr. Griswold he very graciously consented to remain in the city over night and address a meeting of our Society that evening. Having met Dr. Griswold while he was at the University of Iowa and knowing of his great work in that state together with the splendid work he is doing in our own state health department, we felt that an opportunity to hear Dr. Griswold could not be passed by. We got busy by phone, both local and long distance, and as a result every local physician, who was in the city that night was present and Dr. Purdy, of Long Rapids, came 20 miles over almost impassable roads to be present. We also had as our guests, at the dinner and meeting, the three public health nurses of the city and county. Following a delightful dinner Dr. Griswold gave us a very interesting informal address which was all too brief, although he talked for more than an hour. He discussed tularemia, telling us briefly what is known about this disease, its mode of infection, symptomatology and diagnosis. He also discussed various laboratory diagnostic methods employed in the state laboratory in the diagnosis of disease and stressed the value of such aid to the practicing physician. Dr. Griswold discussed in some detail the County Health Unit plan and pointed out the great value of this plan is sparsely populated counties such as ours. Dr. Griswold closed his very fine address with a strong plea for a closer co-operation of the physicians of the state with the state department of health, pointing out that Dr. Kiefer and the personnel of the department were endeavoring, to their utmost ability, to co-operate with the physicians of the state to the end the state department of health may render an efficient and prompt service to both the medical and lay population within the state.

We greatly enjoyed Dr. Griswold both for his charming and gracious personality and for his marvelous store of information of which he so freely gave us.

W. B. Newton, Secretary.

GRATIOT-ISABELLA-CLARE COUNTY

The January meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Park House, St. Louis, Thursday, January 31. Twenty-four had dinner together after which President Du Bois introduced the speaker of the evening Dr. Guy L. Kiefer, state commissioner of health, who in turn introduced Dr. C. C. Young of the state board of health, asking him to describe the making of scarlet fever toxin, and scarlet fever anti-toxin.

After Dr. Young had explained how these two products are made Dr. Kiefer explained how to use them, both for the Dick test, for immunization, and for the therapeutic uses. All this proved very interesting, and profitable, the turnout was larger than usual, the eats were good, making a good meeting in every way.

E. M. Highfield, Secretary.

MARQUETTE-ALGER COUNTY

The January meeting of the Marquette-Alger County Medical Society was held January 22nd. at the Hotel Clifton in Marquette. The meeting was called to order following the dinner which was served at 6:30. Dr. Richard Burke, Councilor from this district, gave a report on the recent council meeting in Chicago. Dr. R. L. Finch gave a report on the recent Secretary's meeting which was held in Chicago. The annual election of officers was then held, and the following officers elected for the year 1929.

President, Dr. A. W. Hornbogen, Marquette.

Vice-President, Dr. W. A. Corcoran Ishpeming.

Secretary-Treasurer, Dr. Russell L. Finch, Marquette.

Delegate to the State Medical Meeting, Dr. C. N. Bottum of Marquette.

Alternate Delegate to the State Medical Meeting, Dr. S. Lojocano, Marquette.

Delegate to present the invitation to the U. P. Medical Society to meet in Marquette County in 1930—Dr. A. K. Bennett of Marquette.

Russell L. Finch, M. D. Secretary.

GENESEE COUNTY

Report of the minutes of the Genesee County Medical Society.

President-Elect Dr. Don Knapp in the chair. Minutes of the last meeting read and approved.

Application for membership in the G. C. M. S. of Dr. Joseph Altwer and Dr. E. B. Guile read. Moved by Dr. Marshall and seconded that the vote on applications be taken. Motion carried.

Committee on ethics report by Dr. Patterson that Dr. Ard of Montrose of practicing unethical medicine. Moved and seconded by Dr. Marshall that Dr. Ard be asked to appear before the G. C. M. S. board of directors to give reasons why he should not be expelled from G. C. M. S. Motion passed.

Dr. Arthur C. Curtis of the University of Michigan gave a talk on "Similarity of Hunger and Appetite and effect of Vitamin B."

Discussion followed. Meeting adjourned.

President Benson in the chair. Minutes of the last meeting read and approved. Dr. Tupper moved that the letter from the State Secretary regarding legislative activity be referred to the legislative committee. Motion seconded and passed. Dr. Willoughby moved that the Secretary

send an invitation to Dr. Chandler to join the G. C. M. S. Motion seconded and discussed.

Dr. Winchester moved that the motion be laid on the table. Motion supported and passed.

Dr. H. J. Vandenberg gave a talk on "Gall Bladder Disease." Discussion followed. Meeting adjourned.

President Benson in the chair. Due to the absence of the Secretary reading of the minutes of the previous meeting was omitted. Dr. H. Cook chairman of the legislative committee reported on the medical practice act bill. Reciprocity was discussed by Dr. Malfroid.

Dr. F. C. S. Battley of Port Huron gave a talk on "Hemorrhagic Diseases of the New Born." Discussion followed.

Meeting adjourned.

President Benson in the chair. Business portion of the program dispensed with. Dr. E. S. Gurdjian department of surgery of the University of Michigan spoke on "Fractures of the Spine and Associated Nerve Injury."

Discussion by Doctors Manwaring and Curry. Meeting adjourned.

G. C. Curry, Secretary, Pro-Tem.

OCEANA COUNTY

Officers for 1929: President, Dr. A. R. Hayton, Shelby; Secretary, Dr. J. D. Buskirk, Shelby; Delegate, Dr. J. H. Nicholson, Hart.

BERRIEN COUNTY

The Berrien County Society held their January meeting in the Hotel Whitcomb at St. Joseph on Wednesday evening the 23rd.

Owing to the poor condition of the roads only about 25 were in attendance at the dinner and meeting.

The new president, Dr. H. O. Westervelt of Benton Harbor took the chair. A new collection system and credit rating bureau were proposed to the members. This to be known as The Berrien County Medical Society Collection Agency and operated as a subsidiary to a local well established collection agency.

It was moved and supported that the President and Secretary be appointed as a committee to arrange terms and establish this unit as a Society activity.

A discussion of the new professional qualifications act was brought up and it was urged by the Secretary that those who had petitions send them in as soon as possible.

The petition of Dr. Ingleright of Niles for transference of membership from the O. M. C. O. R. O. to the Berrien County Society was read and passed to the membership committee for action.

The President then announced his committee appointments for the year as follows:

Executive—Dr. L. M. Rutz, Niles; Dr. W. A. Smith, Berrien Springs; Dr. H. A. Schwendener, St. Joseph.

Membership—Dr. N. A. Herring, Niles; Dr. J. F. Ames, Niles; Dr. C. W. Merritt, St. Joseph.

Program—Dr. J. C. Strayer, Buchanan; Dr. A. W. Corey, New Troy; Dr. James Muir, New Buffalo.

Legislative—Dr. B. D. Giddings, Niles; Dr. H. S. Kling, Niles; Dr. C. V. Spawr, Benton Harbor.

Grievance—Dr. A. A. Rosenberry, Benton Har-

bor; Dr. F. W. Brown, Watervliet; Dr. F. W. Tonkin, Niles.

Tuberculosis—Dr. C. N. Sowers, Benton Harbor; Dr. C. A. Mitchell, Benton Harbor.

The speaker of the evening was then introduced Dr. Don Griswold, deputy commissioner of public health from the state board of health at Lansing.

Dr. Griswold's topic was the new County Health Unit. He approached his subject with a brief history of the State Board of Health, its organization, work accomplished and the aims of the present head Dr. Kiefer. From this he told of the spread of county health units throughout the country and the plan as mapped out for Michigan and the induction of the system in new counties.

Following Dr. Griswold's talk a general and interesting discussion of the plan took place.

Its workability under our local conditions, possible conflicts of administration, eventual control and policies under a new administration.

All of which Dr. Griswold carefully explained as much as possible.

No action was taken by the Society in regards to approval or disapproval of the project, the matter being carried over to the next meeting.

W. C. Ellet, Secretary.

SAINT CLAIR COUNTY

A regular meeting of this Society was held at the Hotel Harrington, Port, Huron, Michigan, Thursday, January 24, 1929.

Supper was served to twelve members and two guests at 6:30 p. m., after which the meeting was called to order by the President at 8 p. m., with the following members present: Doctors Smith, H. O. Brush, Ryerson, Caster, Lane, Morris, Vroman, Webster, Waltz, Waters, Bovee, Wellman, Attridge, Windham and Kesl. As visitors: Doctors A. Dale Kirk of Flint and J. B. Porter of Port Huron.

The Society was informed of the death of Dr. G. S. Ney, a veteran of the profession of Saint Clair County and one of the honorable members of the Society. The Society instructed the President to write an expression of sympathy to the family of our late associate and to attend the funeral services in a body. The President was further instructed by motion, made and supported, that a floral blanket was to be sent to the funeral parlors as an expression of the high esteem and affection of the membership of the Society.

The President was instructed by the Society to seek another place of meeting for the future if the same could be had with satisfactory conditions and food.

The President then introduced the guest of the evening, Dr. A. Dale Kirk of Flint whose subject was, "Practical Problems in Obstetrics and Gynecology." It is regretted the President cannot give the entire record of the evening inasmuch as the remarks of Dr. Kirk were so interesting and instructive. However, mention may be made of some of the high spots of the subject under discussion. The speaker stressed, and quoted statistics to support his view, the necessity and practicality of prenatal history and examination, touching upon several of the more important items both in history taking and the physical examination of the expectant mother. Pelvimetry, particularly of the measurement of the diagonal conjugate and the interischial diameters, was held to be of some importance and the essayist defined the three common types of pelves met in ob-

stetrical work in this locality as those of the rachitic, the flat and the funnel types. The speaker also covered vomiting and the toxemia of pregnancy in a very practical manner and made some very good suggestions with regard to treatment thereof. "Nearly every case of vomiting," said Dr. Kirk, "begins as a neurosis and unless relieved ends in a true toxic condition by reason of the vicious circle set up thereby." Psychic treatment in many cases, if instituted early, will relieve many cases according to Dr. Kirk. "Abdominal support if began early, by some support lifting upward from the symphysis, will in most cases relieve or prevent the backache so frequently complained of in gestation," said the speaker. The tendency is for the patient to throw her shoulders backward and this flexion of the spine places the line of weight bearing at a point posterior to the heel instead of where it is normally. Suspension of all clothing, even to the supports of hose, should be from the shoulders, according to Dr. Kirk. He believes this care and suggestion to be very much appreciated by the patient.

Under the subject of gynecology, Dr. Kirk, touched upon misplacements of the uterus and quoted a national authority in support of the view that backache and neurosis did not arise therefrom. He also attacked the use of repeated curettage for menstrual irregularity and also stressed the need of more physical exercise for young girls who are so often wont to undertake the daily school routine without any provision for the same.

The entire membership of the Society took part in the discussion and many queries were made of the speaker with regard to the use of twilight sleep, forceps application, management of the diet in toxemia of pregnancy, treatment for hairlip, episiotomy, etc. The speaker closed the subject in the usual manner endeavoring to reply to all queries in so far as possible. In conclusion the President thanked Dr. Kirk for coming over and giving the Society such an interesting evening, expressing the hope that the visit could be repeated in the future. Meeting adjourned at 10 p. m.

George M. Kesl, President.

ATTEMPT TO USE FLU VACCINE UNSUCCESSFUL

An attempt to have the influenza vaccine prepared by Dr. Edward C. Rosenow of the Mayo Clinic used by the U. S. Army, Navy or Public Health Service has so far been unsuccessful.

At the recent conference on influenza held here by the Public Health Service, the Rosenow vaccine was discussed. The majority of physicians and health officers present did not view Dr. Rosenow's vaccine favorably.

The vaccine is made from organisms or germs associated with influenza, but as no one knows what organism causes flu, the use of this vaccine is considered by many to be a hit in the dark. The organisms of which the vaccine is made may or may not include the one which causes influenza. Dr. James J. Hogan, who himself presented at the conference a method of treating influenza, is supporting the Rosenow vaccine and is at present trying to get some organization to give it a trial. If some investigator working independently with the vaccine had successful results it would be evidence in favor of the vaccine's potency.—Science Service.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

HISTORY OF MEDICINE—With medical chronology, suggestions for study and bibliographic data, by Fielding H. Garrison, M. D., Lt., Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington, D. C. Fourth edition, revised and enlarged. Octavo of 996 pages, with 286 portraits and other illustrations. W. B. Saunders Company, Philadelphia and London, 1929. Cloth, \$12.00 net.

"For the medical student and practitioner the study of the history of his profession dealing as it does with all aspects of human culture, affords one of the best outlets for ideation and is one of the best offsets to the mental staleness and ennui which result from narrow specialism and infatuation with a single idea." This quotation from Garrison's new book is especially significant at this time. Since the last edition of this work seven years ago the importance of medical history has been recognized by some of the leading medical institutions of the United States, notably Johns Hopkins University, the Mayo Foundation, the University of Wisconsin as well as medical history societies, which have been formed in some of the leading cities. Probably at no other period has the study of medical history assumed such proportions as at present. The fourth edition of Garrison includes a new section on prehistoric medicine which is based on the work of a number of paleopathologists who have examined over 350 specimens of skeletal and cranial remains discovered during the past 75 years. Not only have prehistoric bones been studied for cave gout, osteomyelitis, osteitis as well as other pathological conditions, but the art of paleolithic times has also been found to have a medical significance. Mention is made of a lime stone statuette about four and a half inches high of a paleolithic woman which indicated endocrine obesity. Trephining is mentioned as one of the earliest surgical operations.

Medical history as here given is conveniently divided into periods. Following the prehistoric we have Egyptian medicine, Sumerian and Oriental medicine, Greek and Greco-Roman medicine, from 460 B. C. to 576 A. D. The Byzantine period (476-732 A. D.) The Mohammedan and Jewish periods (732-1096 A. D.) The medieval period (1096-1438 A. D.) The Renaissance (1453-1600), then by centuries to the present. A new chapter is added dealing with medicine in the world war and afterward.

Of special interest are the sections on Cultural and Social aspects of modern Medicine and Medicine in the World's War and After. The former section of 40 pages, much of it in fine type, discusses phases of medicine that concern every physician today; the latter deals with the development of medicine that has grown out of the necessities of the war as well as the present day tendency towards socialization of medicine. Much original work has been done and many discoveries have been made during the past 15 years and here Garrison mentions the work associated with names of women: Maude Slye (cancer), Florence Sabin (hematology), Alice Hamilton (industrial medicine), Gladys Dick (scarletina), Martha Wolstein (serology), May Swartz Rose (food chemistry). 125 pages of the work devoted to appendices contain valuable information for ready

reference, a chronology of medicine and public hygiene; hints on the study of medical history, bibliographic notes and questions and exercises. The work is fully illustrated by photographs and the author has maintained the biographic detail which has been an interesting feature of former editions of this work.

HANDBOOK OF MICROSCOPICAL TECHNIC FOR WORKERS IN BOTH ANIMAL AND PLANT TISSUES—Edited by C. E. McClung. Contributors: Wm. H. F. Addison, Ezra Allen, J. L. Appleton, Jr., Robert Chambers, Wm. V. Cone, Harold J. Conn, E. V. Cowdry, Ulric Dahlgren, Hal Downey, Sophia H. Eckerson, N. C. Foot, R. T. Hance, C. H. Heuser, Raphael Isaacs, F. B. Mallory, C. E. McClung, Josephine W. McNabb, Frederic Parker, Jr., Wilder Penfield, Florence R. Sabin, P. G. Shipley, Ethel M. Slider, W. R. Taylor, and D. H. Wenrich. 495 pp. 43 illus. Paul B. Hoeber, Inc., New York, 1929. Price, \$8.00.

Since the middle of the last century biologists have endeavored to study the cell and its contents through the application of methods of preservation and artificial staining of dead cells. Countless methods have been devised and these have from time to time been collected in manuals of microscopical technic. The current books on technic are in large part compendiums of technical procedure dating from years back, old and new technics intermingled.

The present work differs from these in being critically prepared. It emphasizes the technical methods that predominate in modern research while methods that have been supplanted or are no longer used are given little or no space.

Introductory attention is given the general methods of preparing microscopic slides. There are special sections dealing predominately with methods involving microdissection and vital and supravital stains for the study of living material. Cytological, embryological and histological methods and technic for the preparation of bacteria, protozoa and botanical materials are amply treated. Formulae and descriptions of reagents and material likewise are given in some detail.

Twenty-four contributors, all active investigators in cell research, give the work the impress of authority. The format is the same as in the recent *Special Cytology* by the same publisher. The book is illustrated by pertinent figures.

THE MEDICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month.) Volume 12, No. 4, (Philadelphia Number, January 1929). Octavo of 297 pages with 30 illustrations. Per Clinic year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 net. W. B. Saunders Company, Philadelphia and London, 1929.

The opening chapter of this volume includes Clinic of Dr. Thomas McCrae on "The Early Diagnosis of Empyema in Lobar Pneumonia." This is a very important subject considering the time of year. The volume is so well supplied with clinical papers by men of note that it is almost difficult to choose from its contents. Among the contributors, however, Dr. Martin E. Refhuss writes on "Hyperacidity." Dr. Henry K. Mohler deals with the subject of "Tachycardia and Hyperthyroidism," Dr. Hartmann on Hypoglycemia and Dr. David A. Cooper on "Primary Carcinoma of the Lung." This is a random selection from 28 chapters that comprise the volume.

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THE TREATMENT OF FEMALE STERILITY*

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During the past fifteen years the factors concerned with the problems of sterility have been studied with an intensity that has achieved very definite progress in this vital problem.

The indifferent attitude formerly assumed by the practitioner who was consulted because of infertility, has changed to one of extreme interest, especially as it pertains to the gynecologist and obstetrician. This increasing interest brightens the outlook for future progress. Undoubtedly this increase of general interest can be attributed in part to the effect of the World War and especially must this be true in France and Germany.

It seems that, inasmuch as the problem is a universal one, a short consideration of the treatment of sterility in the female

might be of value and might serve to stimulate further interest in this condition.

Two great advances have been made which have aided us more clearly to direct the line of treatment. First, advance in technic of investigation by which the patency or closure of the Fallopian tubes can be proven. We refer to the Rubin test and to Lipiodol injection for localization of the obstruction. Secondly, to the advances made in the field of endocrinology, notable among which is the discovery of the follicular or female sex Hormone and the study of the relation of thyroid and pituitary conditions.

* Read before the Section on Gynecology and Obstetrics, 108th Annual Meeting of the Michigan State Medical Society, Detroit, September 27, 1928.

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As one attempts to correlate and classify the methods of treatment, both past and present, the problem becomes increasingly complex. Rational treatment of necessity depends upon knowledge of the etiology and over forty causative factors are now known, any one or combination of which may produce sterility¹.

In this consideration we shall assume that the fertility of the male involved has been proven.

The causes of sterility may be divided into two groups:

First—General or constitutional.

Second—Local or mechanical.

GENERAL OR CONSTITUTIONAL CAUSES

Frank² estimates that only 20 per cent of all sterility is due to general or constitutional causes and that they are responsible for 25 to 30 per cent of sterility in the female. He considers these conditions to be largely due to endocrine disorders and distinguishes four groups or types of individual:

1. The typical, normal feminine in which no definite anomalies were demonstrative.
2. The infantile.
3. The neuter.
4. The pseudo-masculine type.

The most reliable signs can be obtained by examination of the secondary sex characteristics—voice, distribution of fat and hair, configuration of breasts and nipples, and the psyche. These, in conjunction with examination of the pelvic organs, complete the study of the degree of the development. The deviations commonly seen are the long limbed eunuchoid woman; the florid-complexioned, hirsute, masculine type; and the short, obese, dull-complexioned, scanty-haired woman. It must not be forgotten, however, that in spite of these anomalies such women may conceive if mated with a male of high fertility.

OBESITY

Obesity is probably the most common constitutional finding. Dickinson³ found 27 per cent substantially overweight in 239 cases of sterility. Of these nearly half had gained twenty-five pounds or more since their marriage. In all but four, other cause of sterility were also discovered. He found that 25 per cent had defective development and amenorrhea which, he thinks, indicates the relation between ovarian or uterine defect and obesity. In this type of case the use of the follicular Hormone as reported by Hirst⁴ would be indicated. It

is also necessary to study carefully the condition of the thyroid and pituitary glands. Meaker⁵ estimated that disturbances of these glands occur in the following ratio: anterior lobe of the pituitary, 60 per cent; thyroid, 20 per cent; ovarian deficiency, 10 per cent. Litzenberg⁶ has called attention to the frequency of low metabolism in sterility and reports excellent results from the use of thyroid. It appears that a normal metabolic rate is necessary to conception and the continuance of pregnancy, and he calls attention to the fact that lesser degrees of hypo-thyroidism, often with little clinical evidence, are apparently a cause of sterility. It therefore seems imperative that all cases of sterility, both male and female, should have a determination of the basal metabolic rate so that intelligent thyroid medication can be carried out when indicated. Very little success has attended the treatment of pituitary deficiencies thus far, probably because of the lack of an efficient preparation that can be used by mouth. One of the authors has under observation at the present time, a sterile woman, who at the time of her first interview, weighed 225 pounds which was an increase of 100 pounds since her marriage. She had suffered from amenorrhea. Under thyroid and pituitary medication, and with proper diet and exercise, she is losing a half pound a day, and within one month after treatment she menstruated.

DIET AND EXERCISE

Particular attention should be paid to the diet in all cases of sterility. While in a certain per cent of obese patients, the metabolic rate, general examination, and pelvic findings are normal, yet the association of sterility and obesity is too striking to be disregarded. Kennedy⁷ called attention to the observations of animal breeders concerning diet. It is their custom to employ forced feeding just before breeding time. They have also noticed that lack of exercise results in lack of fertility. Kennedy believes that obesity is more often due to outside causes—exogenous obesity—than to endocrine disturbances. Macomber⁸, after a long series of experiments with rats, concluded that defective diet may cause decreased fertility but that the kind of dietary deficiency is not important. He believes that the diet affects sterility through its general effect on the health of the individual.

A regime of diet and exercise that will tend to restore the individual to normal

weight and activity should increase the fertility of that individual. In the obese this means a high protein, low caloric diet which contains an ample supply of mineral salts and green vegetables.

In cases of under development, the diet is aimed at the improvement of the general nutrition—a high caloric diet with an abundance of protein. Rest, over-feeding, sun baths, and all roborant treatment should be used.

In all groups, but in the under-developed especially, adherence to principles of good hygiene, proper social life, freedom from worry and overstrain, and regulation of the sex life are beneficial. Too frequent sexual indulgence is common among those who are strongly desirous of parenthood for they believe that such frequency favors conception, while in reality prolonged periods of sexual abstinence may in itself restore fertility.

LOCAL TREATMENT IN HYPOPLASIA

At present the Hormone and endocrine treatment does not prove wholly efficient in the treatment of cases of arrested development although it still holds promise of success with its further study as we progress in knowledge. In addition local measures are employed by many. Norris⁹, in 1918, reported on the use of radium in so-called stimulating doses for cases of ovarian insufficiency with scanty menstruation, dysmenorrhea, and sterility. Of his 16 cases the dysmenorrhea was lessened in ten and cured in two. Five cases complained of sterility and one of these became pregnant. Kaufman¹⁰ reported one similar case with cure of menstrual disturbance and resulting pregnancy.

Rubin¹¹ has reported twelve cases of sterility, nine of whom became pregnant following treatment with small doses of X-ray. However, all these cases were also given gland therapy. The result is, therefore, not conclusive. He drew attention to the fact that in eight of the nine successful cases the ovaries were found to be enlarged on examination and suggests that this may be a point for selection of cases.

Castano¹² and others have treated congenital hypoplasia with the diathermy. He obtained satisfactory results in cases in which the uterus measured not less than 5 cm., if the walls were not too thin and the mucosa not too atrophic. The uterus enlarged after ten treatments and menstruation became normal.

THE MARITAL RELATION

Closely related to both the constitutional and local causes of sterility are the results of abnormal sex life. German authors have been quite positive in the view that frigidity, lack of orgasm, and other functional abnormalities are of considerable importance in the production of sterility. One scarcely needs mention the role vaginismus, dyspareunia, and other gross disturbances might play, but one must not neglect the less obvious conditions, the results of which may be equally as disastrous. Reynolds¹³ is of the opinion that sterility may be due to mistakes in the marital relation. These consist chiefly in the production of excessive congestion and subsequent sterility. Frequent and habitual caressing producing excitation without orgasm is frequently a cause of local disturbance; want of simultaneous chronicity in orgasm due to local irritation in the male causing premature ejaculation, due to the practise of withdrawal as a preventive measure which usually deprives the female of orgasm, or due to the presence of chronic congestion in the female organs which sometimes produces a condition of desire but in which orgasm fails to appear, all may tend to produce local changes tending to sterility. Proper instruction in the physiology of sex life, less frequent coitus, and local measures favoring depletion may serve to correct the difficulties. Also one must not neglect the psychic causes of failure, the treatment for which lies in instruction and suggestion.

LOCAL OR MECHANICAL CAUSES

In most cases of female sterility one or more local causes are found. Seventy to seventy-five per cent of cases fall into this group. For practical considerations these may be classified as:

1. Causes which prevent the sperm being deposited in the cervical canal—called by Meaker "Faults of delivery-reception."
2. Conditions preventing the passage of sperm through the cervix.
3. Causes which prevent the sperm meeting the ovum in the tube—
 - (a) by obstructing the passage of the sperm upward.
 - (b) by interfering with ovulation and migration of the ovum downward.

I. Disturbances of delivery—reception due to female causes.

In order for conception to take place

normal active sperm must be deposited in the cervix in large numbers. Any anomaly, congenital or acquired, which interferes with the act of coitus may prevent conception by preventing the sperm from reaching the cervix. Atresia of the vagina, imperforate hymen, shallow fornices, and other more rare congenital deformities may be found. These constitute a very small percentage of the cases studied and are usually amenable to treatment. Resection of imperforate hymen, vaginal widening operations as performed in Germany¹⁴ and lengthening of the vaginal wall by the simple method of making a transverse incision and uniting the wall longitudinally are all procedures the indications for which are clear and which should yield excellent results when used in properly selected cases. It is the indiscriminate and empiric employment of operative interference that has been responsible for the failure of some valuable procedures. In case of failure in these attempts repeated trials by artificial insemination are indicated.

II. Hostility of the cervix.

One obtains the most helpful information by the post-coital examination. If no spermatozoa are found there is some cause preventing the deposit of sperm in the cervix. If normal spermatozoa are found the cause is at once localized to the supracervical region. Perfectly normal sperm may be deposited in the cervix but they may be killed or their further progress prevented by the condition of the cervix uteri. Abnormal conditions in the cervix were early recognized as causes of sterility. Congenital anomalies such as elongation, anteflexion, and pin hole os, however, were considered as entities and as a result treatment yielded but poor results. It is our opinion that the long, narrow, sharply anteflexed cervix is only part of a general hypoplasia of the organs of reproduction and is an indication for endocrine and local stimulative treatment instead of operative intervention. The patency of the cervix can readily be determined by passing a small Hegar sound. It seems unreasonable to assume that a cervical canal large enough to permit the escape of menstrual blood is mechanically impenetrable to the spermatozoon, yet pregnancy frequently follows the passage of a sound. Hunner and Wharton¹⁵ treated cervical stenosis 55 times with 18 resulting pregnancies. These results are probably due to the establishment of proper drainage of the genital tract.

More important is the character of the cervical secretion. Meaker suggests the investigation of the cervical secretion along the following lines: 1, Viscosity; 2, presence of leucocytes and bacteria in the stained smear; 3, the chemical reaction.

Sims¹⁶ recognized the importance of the cervical secretion in the study of sterility and recommended the examination of the secretion after coitus to determine the presence or absence of living spermatozoa. He advised trachelorrhaphy as a method of treatment. Sturmdorff¹⁷ stated that "A diseased cervical mucosa is capable of immobilizing and destroying spermatozoa," and recommended his method of tracheloplasty as an aid in the treatment of sterility. Curtis¹⁸ stated that gross lesions of the cervix with purulent leucorrhea may prevent impregnation. Hostile cervical secretions are usually the result of an old gonorrheal endocervicitis or the infection and erosion accompanying lacerations due to childbirth. Retained secretions resulting from poor cervical drainage may become spermaticidal. Stellwagen¹⁹ found diphtheroids in the cervix in one case of sterility due to purulent leucorrhea and was able to effect a cure by means of local treatment and an autogenous vaccine. Conservative measures, preferably radial cauterization with the electro-cautery is the treatment of choice. In case this fails after a thorough trial some form of tracheloplasty should be considered. Artificial insemination may be tried in the event of failure of all other methods. We have found it successful when local treatment failed to cure the diseased cervix.

Also, one must not lose sight of the relation between cervical and tubal infections. Smiley²⁰ has called attention to the fact that since practically all cases of tubal disease are the result of infection from below it would be of no great value to attempt reconstructive work on the tubes until the focus in the cervix has been removed.

THE UTERUS IN STERILITY

Probably the position of the uterus has little to do with impregnation. Hunner and Wharton concluded that uncomplicated retroversion is not a cause of sterility. Functional disturbances with resulting congestion might interfere with implantation. Endometritis in itself is rare and is seldom a sole cause of sterility. Fibroids do not necessarily cause sterility except when they cause excessive pressure, although Graves²¹ believes that sterility oc-

curs in about 30 per cent of women who have fibroids.

Hypoplasia, however, is an important and frequent factor; true infantilism is rare. Meaker takes the ratio of the length of the supracervical uterus to the cervix as an index of the degree of development. The infant ratio is 1:2, the normal adult 2:1. All degrees of development may be found.

THE FALLOPIAN TUBES

Recently the interest of most workers in sterility has been focused on the diagnosis and treatment of tubal conditions. With the advent of the Rubin²² test in 1919 an accurate, relatively safe and practical method of determining tubal patency was presented to the profession. Universal interest was aroused at once and hundreds of cases were reported within the next few years. The mystery of patency of the supracervical tract began to clear. That the procedure had some therapeutic value soon became evident acting either by the straightening of kinks, blowing out fine mucous plugs, or separating slender adhesions. The tubes in some cases opened and pregnancy resulted. Douay²³ found that in 100 cases pregnancy followed in eight. Graff²⁴ obtained a result in 10.1% in a series of 376 insufflations and Rubin²⁵ now states that 14.5% have become pregnant following insufflation in a series of 2,000 cases.

Some have recommended insufflation following coitus in the hope of driving spermatozoa into the tubes. We have tried this a few times without success but it is our opinion that the danger of infection is too great to warrant frequent use of the procedure. Sellheim²⁶ went so far as to devise an apparatus by means of which the spermatic fluid can be injected with the stream of gas.

With the continued use of gas insufflation our knowledge of the physiology of the tubes was increased. Rhythmical contractions were noted and recorded on a kymograph. The tubes were found to be impermeable at certain periods in the menstrual cycle (physiologic impermeability) due to the swelling and thickening of the uterine mucosa which may obliterate the orifices of the tubes at the uterine ostium. And, also, the condition of tubal spasm was discovered. This is probably produced at the uterine ostium where the muscular coat of the tube is thick and resists distention. Meaker considered this a possible cause of sterility and advised the use of Benzyl Benzoate as an anti-

spasmodic after intercourse in such cases. Douay had five successful cases with this method.

While the Rubin test determines the patency or occlusion of the Fallopian tubes it fails to furnish important information concerning the point of obstruction in cases with closed tubes—a point that is absolutely essential before a rational method of treatment can be planned. In 1923 Kennedy²⁷ reported on the radiography of closed tubes using sodium bromide for injection. In 1925 Carlos Heuser²⁸ used iodized oil to visualize the uterine cavity for the diagnosis of early pregnancy and in 1926 Carreras²⁹ employed the oil to visualize the uterus and tubes. The procedure soon came into frequent use and large numbers of case reports can now be found in the literature. The point of obstruction in occluded tubes can be definitely localized by the injection of iodized oil and roentgenography. In addition one can often obtain some idea as to the cause of obstruction. Further, the oil is thought to have some therapeutic value due to the slow liberation of iodine as suggested by Jarcho³⁰ who believes that it may have a favorable influence on the pathological conditions in the tubes. Cotte and Pierre³¹ have injected the oil in 20 cases of acute adnexal inflammation without harm and believe it may be beneficial in some cases. We have had one case that became pregnant shortly after the transuterine injection of lipiodol, but other factors were also receiving attention in this case so the result is not conclusive.

The surgical treatment of closed tubes has been attended with very little success in the past. Undoubtedly a large proportion of the failures can be attributed to inaccuracy in diagnosis especially diagnosis of the point of obstruction. Those cases in which occlusion has occurred at or near the fimbriated extremity are more favorable for treatment than those in which the occlusion is in or near the narrow interstitial portion.

The history should be studied thoroughly for evidence of previous gonorrheal infections, post-partum or post-abortion inflammatory disease, suppurative appendicitis, tuberculosis and neoplasms. It is obvious that no active treatment should be attempted on cases showing evidence of acute or sub-acute infection. Douay advised diathermy, massage and hydrotherapy in those cases of old infection with partially occluded tubes.

Solomon³² divides the operative proce-

ture into four classes according to the location and extent of the lesion:

1. Release of adhesions at the fimbriated end of the Fallopian tube.
2. Resection at the fimbriated end of the tube.
3. Operation for disease at the isthmus of the tube.
4. Operation for disease at the uterine end of the tube.

If tuberculosis of the tubes is present they should be removed completely. If there are simple adhesions at the fimbriated end, these may be gently freed and a strand of No. 2 catgut placed in the tube to prevent it closing again. If more extensive disease is present the fimbriated end may be resected. When the disease is in the isthmus the diseased portion should be resected and an end to end anastomosis done, but the results are not so hopeful. When the disease is in the uterine end of the tube the diseased portion should be removed, the uterine ostium exposed, the uterus bisected and the tube sutured in place.

Numerous other operations have been used such as the salpingorrhaphy of Pozzi, the method of Clado, and the tubo-uterine implantation as used by Ries and Watkins. Grafting or implantation of the ovary into the uterus does not appeal to us as being based on sound physiologic principles.

SUMMARY

Successful treatment of female sterility depends primarily on an accurate diagnosis of the etiology.

It appears that in approximately 25 per cent of cases, sterility in the female is the result of abnormal constitutional factors.

In the greater number (about 75 per cent) it is due to the operation of local or mechanical causes.

In any given case the causes are frequently multiple and while the treatment of mechanical conditions would seem most important, the general physical, mental and social problems must not be neglected.

Recent advances in diagnosis and refinements of surgical technic enable one to offer those whose sterility is of tubal origin some definite hope of improvement through reconstructive surgery.

With the modern treatment of cervical infections by the galvano-cautery and diathermy and by proper attention to genital drainage may we not hope to definitely decrease the incidence of tubal infections and tubal sterility?

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DISCUSSION ON PAPER BY ALEXANDER M. CAMPBELL, "THE TREATMENT OF FEMALE STERILITY"

Dr. Harold Henderson (Detroit): I enjoyed hearing the description by Dr. Campbell very much. I am sure he has done more of this work than anybody else in the state. He has gone into it much more fully than the rest of us have. The

newer studies of sterility have taught us many things. In the first place, they have taught us more accurate diagnosis. The armamentarium of the surgeon in the past was dilatation and a curettage when a patient reported sterility. Many women have been subjected to needless operation for correcting a malposition of the uterus. It is surprising how many of these women have husbands who have no spermatozoa whatsoever.

One of the first things we must learn to do, despite the fact that we have learned so much about this subject in the last year—there are many of us who must get the lesson home that the husband must have motile spermatozoa before you attack the problem.

Probably the biggest advance made in handling this type of case is in the perfection of the Rubin test. By means of the Rubin test we can, of course, tell whether or not a patient has patent tubes. It is evident she cannot become pregnant if the tubes are not patent. If there is failure of passage of gas through the tubes we can pursue the subject a little further and inject lipiodol and locate the point of obstruction. If there is an obstruction we can then devise, if it seems feasible, an appropriate operation to correct the particular type of obstruction that we may be dealing with.

In other words, we are dealing with an entirely different kind of operation for sterility than we were ten or fifteen years ago. In the past practically every operation consisted of a dilatation and curettage, or a correction of a retroversion. We are beginning to develop the technic of salpingostomy. That is the only operation justifiable now. The cases of sterility that have been cured by means of curettage probably could have been corrected by other means or by no treatment at all.

I think we must compliment Dr. Campbell again on the thoroughness and broad-mindedness with which he has approached this subject.

Dr. H. Wellington Yates (Detroit): I am always interested in any subject that Dr. Campbell brings out. As someone has said, I suppose he has done a little more work than anybody I know in the immediate vicinity. The question of these radical operations that our friend from New York does and the results that he has from them are very surprising to me and very inspiring likewise. I have heard his paper two or three times and I am always inspired by it. The particular reason I wanted to get up for is the point that Dr. Morris brings out in the Solomon operation

that Dr. Campbell has referred to. It seems to me the wisdom that Dr. Morris uses in this is in splitting the tube clear up to the uterus or thereabouts because within two centimeters in the tube outward from the uterus is the most constricted portion of the tube. Unless you go beyond this place there is very little hope, because in a great many cases there is where the constriction takes place.

I particularly wish to call attention to the fact that there is within about two centimeters of the uterus that you cannot get a probe through even in its normalcy, to say nothing of this constriction that would take place from even a low grade inflammation.

REPLY TO DISCUSSION ON "THE TREATMENT OF TUBE STERILITY"

Dr. Alexander M. Campbell (Grand Rapids):

I am sorry that I did not have more time to discuss some of the phases of this subject more thoroughly. If what I have said, however, will stimulate practitioners to interest themselves in the problems of sterility my presentation has been worth while.

I do not want it to be understood that our experience in this subject is greater than any one else in this state. We have, however, spent considerable time and study in the problems of sterility and are increasing our knowledge in these cases by rather intensive study of each individual.

Reparative surgery of the tube is more successful when it is directed to the fimbriated extremity.

Dr. Yates states that there is a portion of the isthmus of the tube that cannot be probed and he is quite right. The interstitial portion is of small diameter, one-half to one mm. only and is often tortuous. Sometimes its course is marked by sharp angulations. In less than half of the cases it rises in a smooth curve. It is this portion of the tube which seldom admits the passage of a probe; indeed considerable damage may be done in attempting it. Likewise attempts at reconstruction of this portion are rarely successful.

One practical point that I would like to bring out is in reference to the most favorable time for insufflating the patient, and that time is five or six days after the cessation of menstruation.

There is a "physiological impermeability" of the tube previous to menstruation at which time frequently the gas will not pass through the tube. This is a practical point that should be borne in mind by those who are commencing to use this important diagnostic procedure.

TUBERCULOUS ENTEROCOLITIS

Frank Smithies, Morris Weissman and Frank Fremmel, Chicago, conducted a gastro-enterologic survey for definite evidence of the incidence of digestive dysfunction among the patients of a tuberculosis sanatorium. The summary of symptomatic anomalies was: dysphagia (laryngeal or tracheal disease?), 15 per cent; gastric symptoms (nausea, vomiting, pyrosis), 40 per cent; peptic ulcer syndrome, 3.5 per cent; disturbances in bowel, 79 per cent; normal stool frequency, but dyspepsia present, 19 per cent. In this group there were 44 males and 36 females. The average age approximated 32 years; the youngest patient was 6, and the oldest 70 years. The average duration of the tuberculosis (usually, initially, pulmonary) was 2.6 years, the shortest duration

being two months and the longest 14 years. At the time of study, the sputum in 49 cases contained tubercle bacilli; in 17 complement fixation tests were positive; in 12 the sputum was bacilli free, but in 10 of these tubercle bacilli had been present in the sputum or positive complement fixation tests had been obtained. The two exceptions were instances of characteristic tuberculous bone lesions. In the entire group there was a family history of tuberculosis in 23 (28.7 per cent). The authors discuss the alimentary tract physiologic function affected by tuberculosis; location of enteric lesions; modes and routes of infection; allergic manifestations in tuberculous enterocolitis; clinical groupings and clinical summaries; roentgen studies and the mode of management.—A.M.A.

THE VALUE OF X-RAY IN OBSTETRICS

HARRISON SMITH COLLISI, M. D., F. A. C. S.

GRAND RAPIDS, MICHIGAN

During the last two years at Butterworth Hospital, radiograms were taken of 136 pregnant women at or near term, in which there was some reason to believe that disproportions or anomalies existed in either the foetus or maternal pelvis, which would likely cause difficult or impossible delivery through the birth canal. In 65 per cent of these cases, it was convincing that delivery could be accomplished safely. The remaining 35 per cent presented abnormalities necessitating very careful consideration to determine the method of delivery.

A study of the osteology and measurements of the normal female pelvis is essential in order to intelligently interpret X-ray pictures of the pregnant pelvis, and the pelvic anatomy should always be borne in mind in operative obstetrics. Measure-

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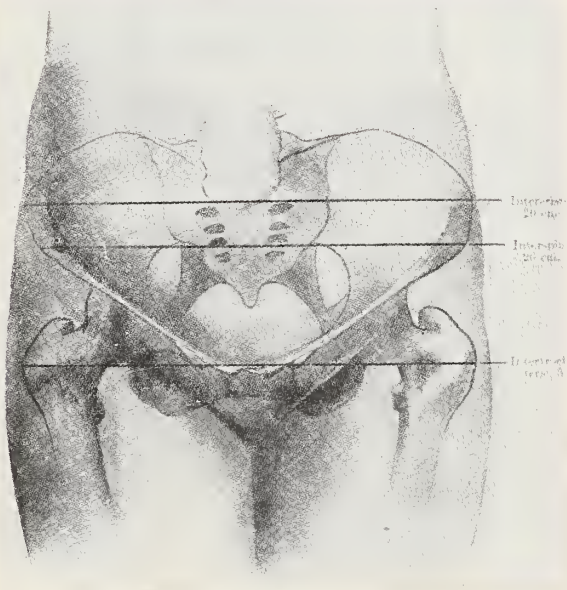


Figure 1
External Measurements.

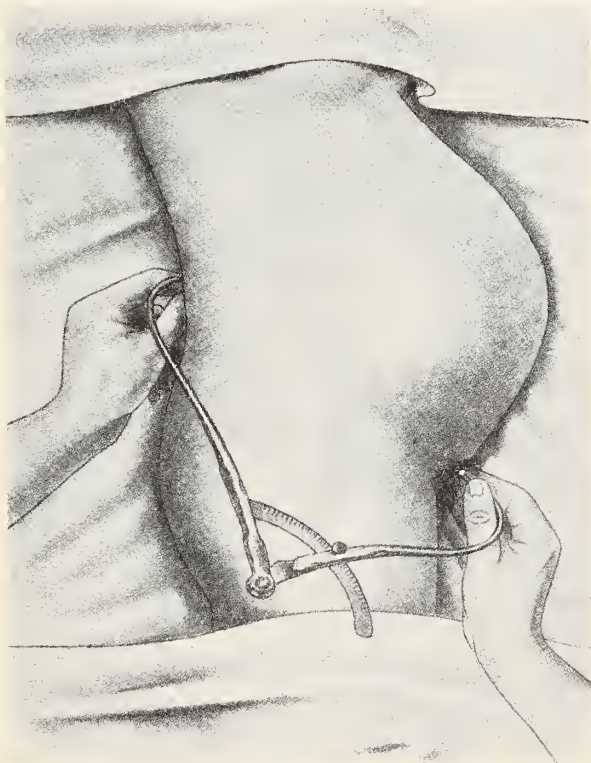


Figure 2
Measuring External Conjugate.

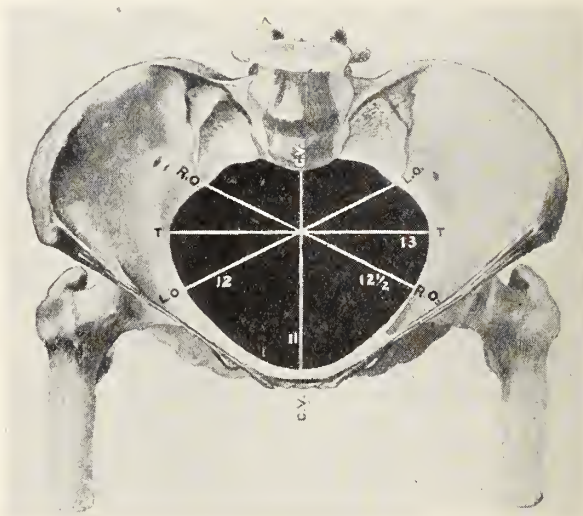


Figure 3
Pelvic Inlet.



Figure 4
Pelvic Outlet.

ments of the pregnant pelvis, most frequently taken, are the interspinous, intercrystal, bitrochanteric and external conjugate. They are only relative, but are of value in determining other absolute diameters of the pelvic inlet and outlet, impossible to obtain from the living subject.

Of all measurements, the most important and constant is the conjugata vera or true conjugate. This may be fairly accurately estimated by measuring with a pelvimeter the external conjugate or Baudelocque diameter and deducting 8 cm. Thus, an external conjugate of 18 cm. would have a true conjugate of 18 cm. less 8 cm. to equal 10 cm. Even though this method of Baudelocque is questioned by some, it nevertheless gives information, from which certain important conclusions may be drawn and is the most practical for all purposes.

CONTRACTED PELVIS

Several classifications of contracted pelvises have been published. Michaelis classified beginning contracted pelvises as those having a conjugata vera of 10 cm. or less in justomino types and $9\frac{1}{2}$ cm. in those of the flat variety. Litzmann proposed four grades of contracted pelvises according to the length of the true conjugate. The simple classification of Schroeder is perhaps the best, in which a conjugata vera of 10 cm. is made the lower limit of normal. Anything below this is considered a contracted pelvis. The shortest conjugata vera permitting the delivery of a normal sized child through the natural passages is $6\frac{1}{2}$ cm., everything below this being considered absolutely contracted. If the conjugata vera is $6\frac{1}{2}$ to 9 cm., the pelvis is considered relatively contracted. From 9 to 10 cm., difficult labors may be expected in all cases in which there is an error of mechanism rather than from disproportion of foetal head and pelvis. In all cases, much depends upon the size of the child, hardness and moldability of its head, presentation, position and attitude, all of which may make the pelvis smaller or larger, according to the spacial relationship between the foetal head and the pelvis.

Nearly all data collected on pelvic measurements varies and much is unreliable. A large percentage of obstructive labors occur in maternity departments of hospitals, where little, if any, study may be given to

them until after delivery. It is generally recognized that the frankly contracted cases are best handled. In these, Caesarean section is usually resorted to and a living foetus obtained and an uncomplicated maternal recovery occurs. The border-line case is the one which causes the most concern. Abnormal presentations are frequently present in contracted pelvises. When the head descends, it finds the entrance to the superior strait blocked, glides into one or the other iliac fossa, producing an obliquity of the foetal axis to that of the inlet, making it possible for the occurrence of partial or complete rotation of the foetal head. Subsequent contractions lock the foetus into an abnormal position. Soft foetal bones, as in prematurity and monstrosities, may prevent descent. Uterine contractions are also usually weak and there is early rupture of the membranes in contracted pelvises.

CASE STUDIES

Of the 136 cases studied, 14 have been selected and are presented, with brief histories and radiograms to show the value of the X-ray in obstetrical cases.

Case 1—Mrs. H. S., File 13846. Normal pelvis. Para 1, age 30, term full. Position L. O. A. Measurements: I. S. $24\frac{1}{2}$; I. C. 28; B. T. 30; E. C. $17\frac{1}{2}$. Labor 25 hours.

Delivery—Low forceps; bi-lateral episiotomy; small vagina; narrow outlet. Baby alive; weight 7 lbs. 11 oz. Mother—Normal recovery.

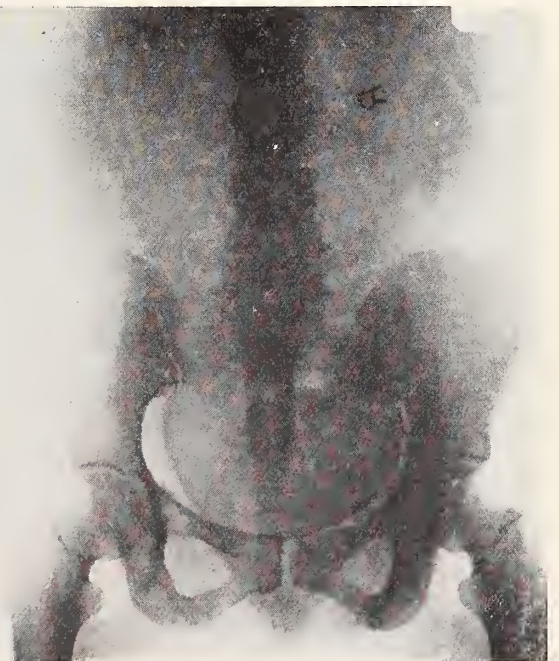


Figure 5

Antero-posterior view shows foetal head and pelvis relatively proportionate so that head will pass through without difficulty. Foetal spine is on left side of abdomen.



Figure 6

Lateral view with foetal spine anterior. Distance from sacral promontory to pubic bone is sufficient to permit descent of foetal head.

This case may be considered normal from an X-ray standpoint and should be borne in mind when comparing subsequent pictures.

Case 2—Mrs. E. B., File 15643. Large foetus. Para 1, age 29, term full. Position R. O. A. Measurements: I. S. 26; I. C. 29; B. T. 33; E. C. 21½. Labor 58 hours.

Delivery—Classical Caesarean section. Baby alive; weight 11 lbs. 6½ oz. Extensive molding of head. Mother—Normal recovery.



Figure 8

True conjugate not large enough to permit passage of head through birth canal. Normal delivery impossible. Caesarean section performed.

Case 3—Mrs. H. H., File 17143. Medium large foetus. Para 1, age 27, 10 days ante-term. Position L. O. A. Measurements: I. S. 22½; I. C. 25½; B. T. 34; E. C. 18½. Labor 36 hours.

Delivery—Mid forceps; episiotomy. Baby alive; weight 6 lbs. 10¼ oz. Cerebral compression, no hemorrhage, fair to good recovery. Mother—Normal recovery.



Figure 7

Extremely large foetal head and overriding bones. Disproportion of head and pelvis. Baby weighed 11 lbs. 6½ oz.



Figure 9

Border-line disproportion of foetal head and pelvis. Questionable whether head will successfully pass through pelvis.



Figure 10

Conjugata vera as compared with size of foetal head appears sufficient to permit normal passage.

History of this case is one of difficult labor and obstetrical manipulation, resulting in extreme cerebral compression of the foetal head and considerable trauma to mother. This patient is now pregnant and Caesarean section has been advised.

Case 4—Mrs. G. L., File 17248. Medium large foetus. Para 1, age 19, term full. Position L. O. A. Measurements: I. S. 22; I. C. $23\frac{1}{2}$; B. T. 28; E. C. 17. Labor none.

Delivery—Caesarean section, abdominal muscles hard, tense with diastasis. Baby alive; weight 7 lbs. 1 oz. Mother recovered.



Figure 11

Medium large foetus. External conjugate 17 cm.; true conjugate 9 cm.



Figure 12

Head floating, in close contact with sacral promontory. Patient's abdomen large, fundus high. Caesarean section.

In all cases where the foetal head is floating and small parts are palpated high in the fundus, examine for disproportions and anomalies of the foetus and pelvis. This case is questionable for normal delivery and Caesarean section is indicated.

Case 5—Mrs. M. O., File 15346. Large foetus; long labor; manipulation. Para 1, age 22, 29 days post-term. Position between L. O. A. and L. O. P. Measurements: I. S. 22; I. C. 26; B. T. 33; E. C. 21. Labor 79 hours.

Delivery—Scanzoni; mid forceps. Baby alive; weight 8 lbs. $6\frac{1}{4}$ oz. Head showed marks of forceps. Mother good condition.



Figure 13

Large foetal head with extensive parietal overriding. From X-ray it appears progress would be normal, but it was not.



Figure 14

Forceps delivery gave live baby weighing 8 lbs. 6¼ oz. Extensive instrumentation.

Case 6—Mrs. C. A. B., File 14384. Butterfly spine; manipulation; complicated delivery. Para 1, age 25, 10 days post-term. Position L. O. A. Measurements: I. S. 24; I. C. 27; B. T. 31; E. C. 17. Labor 29 hours.

Delivery—Mid forceps. Baby alive; weight 9 lbs. 8½ oz. Brachial paralysis; cerebral hemorrhage. Died 18 hours after delivery. Mother—3rd degree lacerations.

Butterfly spine is an anomaly in which the transverse processes of the fifth lumbar vertebra articulate with the sacrum and wing of the pelvis.



Figure 15

No apparent disproportion. Labor was difficult. Study shows Butterfly spine.



Figure 16

Lateral view.

It occurs in about 2 per cent of cases. Patients with normal pelvic measurements and foetal position go into apparently normal labor, which is prolonged and difficult. X-ray study prior or subsequent to delivery may disclose a Butterfly spine, where other abnormalities are entirely absent.

Case 7—Mrs. M. K., File 15846. R. O. P. position. Para 4, age 34, term full. Position R. O. P. Measurements: I. S. 24; I. C. 27½; B. T. 31; E. C. 21. Labor 11 hours.

Delivery—Spontaneous. Baby alive; weight 8 lbs. Mother—Normal recovery.

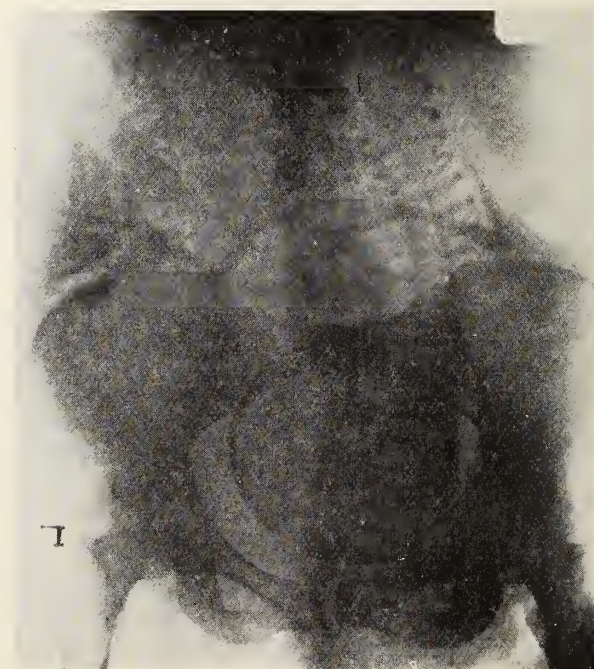


Figure 17

Value of X-ray demonstrated to diagnose position of foetus as well as disproportions and anomalies.



Figure 18
Foetal spine posterior.

Long labors in which rotation from posterior to anterior position do not readily occur, may be explained and anticipated in cases where diagnosis cannot be made with definite assurance by manual examination.

Case 8—Mrs. R. R., File 11331. R. O. P. position; Caesarean section. Para 1, age 28, term full. Position R. O. P. Measurements: I. S. 21; I. C. 25; B. T. 29; E. C. 17½. Labor 4 hours; no advancement.

Delivery—Caesarean section for contracted pelvis. Baby alive; weight 6 lbs. Mother—Uneventful recovery.



Figure 20
Foetal spine located, posteriorly. External conjugate 9½ cm.

In this case, the fact that the position was R. O. P. and that a small degree of contracted pelvis was present, Caesarean section seemed to be the procedure of choice.

Case 9—Mrs. R. E. E., File 16855. R. S. A. position. Para 1, age 25, term full. Position R. S. A. Measurements: I. S. 22½; I. C. 26½; B. T. 34; E. C. 19. Labor 15 hours.

Delivery—Spontaneous; episiotomy. Baby alive; weight 8 lbs. 3 oz. Mother recovered.

The X-ray is of material assistance in determining breech presentations.



Figure 19
Spine of foetus on right side.

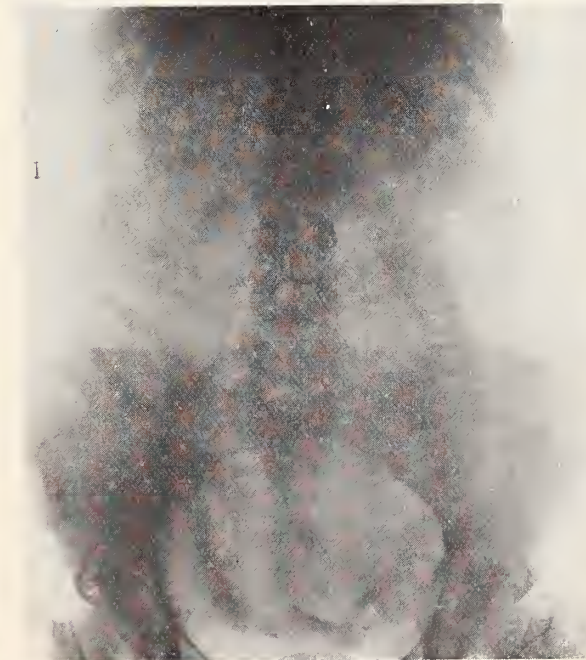


Figure 21
Sacral presentation.



Figure 22
Transverse position.

Case 10—Mrs. E. G., File 17115. Transverse position; previous operation for uterine suspension. Para 2, age 26, term full. Position transverse. Measurements: I. S. 26; I. C. $28\frac{1}{2}$; B. T. 34; E. C. 20. Labor none.

Delivery—Classical Caesarean section. Baby alive; weight 8 lbs. $15\frac{3}{4}$ oz. Mother recovered.

Caesarean section was performed for the reason that the obstetrician did not believe he could successfully deliver the patient and obtain a living child by version.

Case 11—Mrs. S., File 14170. Monstrosity. Para 4, age 30, 24 days post-term. Large abdomen full

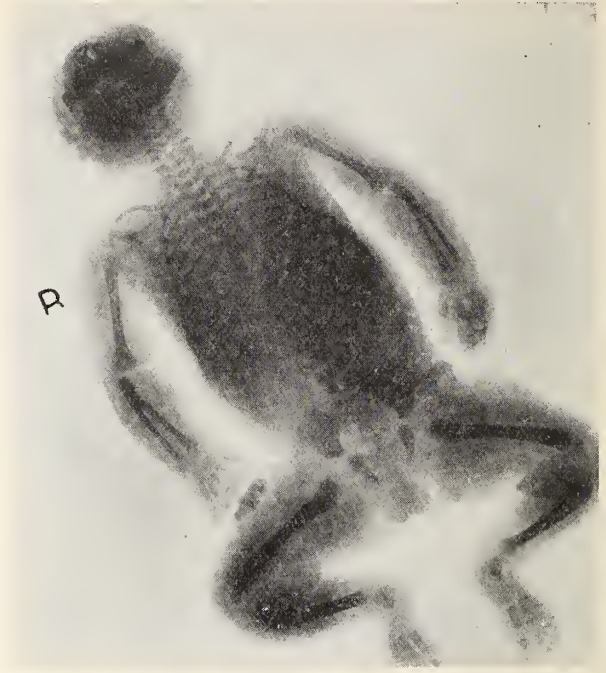


Figure 24
Monstrosity after delivery.

of fluid. Position R. O. P. Measurements: I. S. $25\frac{1}{2}$; I. C. $28\frac{1}{2}$; B. T. 30; E. C. 20. Labor 14 hours.

Delivery—Version and extraction. Baby—Anencephalic monster. Mother—Normal recovery.

There is no greater disappointment to the expectant mother than to go through the period of pregnancy, be delivered with happy prospects and ultimately be informed that the baby is deformed. The X-ray clearly demonstrates the presence of monstrosities before delivery.

Case 12—Mrs. J. B., File 15499. Monstrosity. Para 1, age 33, term full. Position R. O. A.



Figure 23
Monstrosity before delivery.



Figure 25
Large monstrosity before delivery.



Figure 26
Monstrosity after delivery.

Measurements: I. S. 27; I. C. 30; B. T. 32; E. C. 22½. Labor—Membranes ruptured 7 days ago. Amniotic fluid, 4 plus. No pains for 50 hours. Castor oil and quinine with negative results.

Delivery—Voorhees' bag; version and extraction. Baby—Monster. Mother recovered.

Case 13—Mrs. A. C. S., File 1826. Deformed spine. Para 1, age 23, 21 days post-term. Position L. O. A. Measurements: I. S. 21; I. C. 24½; B. T. 31¼; E. C. 18¾. Labor induced by castor oil and quinine; duration 4½ hours.

Delivery normal. Baby alive; weight 6¾ lbs. Mother recovered.

(Unfortunately the X-ray of this case showing the pregnancy was destroyed and subsequent radiograms were taken after delivery).



Figure 27
Lateral spinal curvature.



Figure 28
Lateral view.

This patient was one in which complicated delivery was expected on account of the spinal deformity. Normal labor has subsequently occurred upon two occasions.

Case 14—Mrs. F. Y., File 11648. Pituitrin; axis traction forceps; dead foetus. Para 1, age 27, term full. Position R. O. P. Measurements: I. S. 22; I. C. 26; B. T. 30; E. C. 18½. Labor 25 hours.

Delivery—Axis traction forceps; episiotomy; 3rd degree laceration. Baby dead; cerebral compression. Weight 6 lbs. 12 oz. Mother—Complicated recovery.



Figure 29
Antero-posterior view of apparently normal pelvis. Complicated forceps operation was resorted to with disastrous results.



Figure 30
Lateral view, after delivery.

This is a case in which poor judgement was used in the choice of obstetrical procedure. During labor, which lasted 25 hours, pituitrin and axis traction forceps were used indiscriminately and the patient was delivered with extensive lacerations, great loss of blood and shock. A subsequent labor of recent date resulted normally.

DISCUSSION

In the cases presented, it is to be understood that no claim is made that the radiogram is infallible in guiding the obstetrician to select a proper method of delivery. Other findings such as age, parity, physical condition, development of soft parts of the mother, foetal position and pelvic measurements are very important. The X-ray serves only as an adjunct, especially in the cases of primiparae. There is no organ in the body which does not present at some time an abnormality and it is as frequently found in the bony formation of the pelvis and development of the foetus as elsewhere. It is the opinion of obstetricians that a radiogram should be obtained in every case of pregnancy in primiparae where the slightest suspicion of a disproportion or an anomaly is present and also in multiparae with histories of previous difficult deliveries.

X-RAY TECHNIC

Criticism may be made that the position of the patient on the table, the degree of rotation of the foetal head, the angle and distance of the X-ray tube from the pelvis,

may lead to inaccuracies in the interpretation of the relative proportion of the pelvis and foetal head. A method is being worked out by Dr. G. G. Stonehouse, roentgenologist at Butterworth hospital, and myself, whereby the pregnant pelvis may be X-rayed and more definite information obtained as to pelvic measurements.

By this technic, one film is first taken in the antero-posterior plane. The developed film thus gives the foetal position. A lateral view is next taken, with the patient lying on the same side in which the foetal back is located. A pelvimeter (with lock nut) is next applied in the position to measure the external conjugate, carefully placing the two ends in the same horizontal plane. The caliper ends are fixed in position with adhesive tape at the pubic and lumbo-sacral extremities, before the picture is taken. On the films it is possible to measure the apparent internal conjugate, between the foremost point of the sacral promontory and the internal superior margin of the pubic bone; the external conjugate, between the shadow of the caliper ends of the pelvimeter. The known factor of the external conjugate, as previously taken with the pelvimeter, is used in an equation with the above findings to determine the true or internal conjugate.

It has been proven geometrically, that parallel lines cut by lines radiating from a point are divided into proportionate segments.

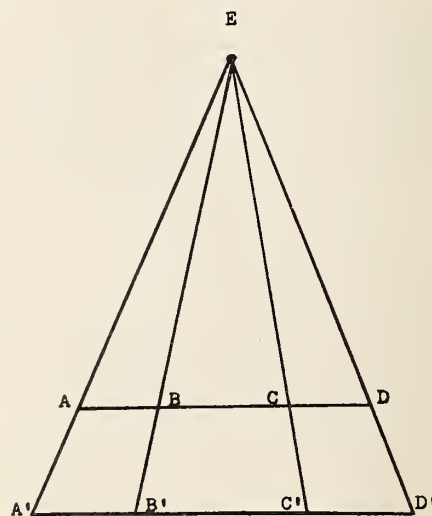


Figure 31

E represents X-ray tube.
A B C D represent pelvis.
A' B' C' D' represent X-ray plate.
AD equals external conjugate.
BC equals internal conjugate.
A'D' equals external conjugate X-ray.
B'C' equals internal conjugate X-ray.

From this the following equation has been deducted:

Ext. Conj. X-ray	...	Int. Conj. X-ray
Ext. Conj.	...	X

Example: (Measured in mm. for convenience).

1. External conjugate previously taken equals 200 mm.
2. External conjugate by X-ray film equals 300 mm.
3. Internal conjugate by X-ray film equals 150 mm.
4. X equals true internal conjugate.

300	...	150
200	...	X
300X equals	30,000	
3X equals	300	
X equals	100 mm. or 10 cm.,	true conjugate.

All films are taken with a Bucky Diaphragm at 25 inches distance from the pregnant abdomen. It has been found that by careful technic, there is very little error in the results obtained.



Figure 32
Bony pelvis with pelvimeter attached.

This method has been quite definitely proven by making a check study of a number of surgical cases, upon which pelvic and abdominal operations were performed, permitting such study. All external pelvic measurements and X-rays were carefully taken prior to operation. The true conjugate was then determined by estimation from the external conjugate and also by X-ray film measurements. At operation, an obstetrician, trained in pelvimetry,



Figure 33
Pregnant pelvis with pelvimeter attached and measurements marked.

measured the internal conjugate with a DeLee internal pelvimeter. By thus obtaining the true or internal conjugate, it is possible to check the reading of the X-ray film. The series of cases studied has not yet been completed, but will be reported later.

It is also planned to study a technic whereby the biparietal, antero-posterior and suboccipito-bregmatic diameters of the foetal head may be determined antepartum.

This report is only preliminary. Further studies are being made on more cases. The following summary proves that the use of the roentgen ray in examination of pregnancy cases at term is valuable:

1. As an adjunct to other methods of obstetrical examination.
2. To definitely ascertain foetal and pelvic disproportion.
3. To accurately diagnose foetal position and extent of epiphyseal formation.
4. To show the contra-indications for the indiscriminate use of pituitrin and forceps.
5. To assist in the choice of delivery technic in subsequent pregnancies.
6. To avoid disappointment to the mother and embarrassment to the physician in the delivery of a still-birth or monstrosity.

TREATMENT OF ACUTE EMPYEMA COMPLICATED WITH BRONCHIAL FISTUAL

According to Ralph B. Bettman and Nathan N. Crohn, Chicago, a bronchial fistula that occurs in actual pleural empyema almost invariably closes after artificial drainage has been established. Allowance can be made for the escape of pus and air from the pleural cavity and yet the consequences

resulting from an artificial open pneumothorax can be prevented. The closed method of drainage is just as desirable in cases complicated with bronchial fistula as in the uncomplicated cases of acute empyema.—Journal American Medical Association.

THE USE OF WINE IN ROMAN MEDICINE ACCORDING TO CELSUS

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The State University of Iowa

It is as difficult to trace to its beginnings the making of wine as it is to find primitive man. In other words, the use of wine is found in all literatures and in them back to their earliest sources. Whether you read comedy, tragedy, epic, history, didactic poetry, lyric poetry, medicine or law,—whether it is religious or secular literature, you will find the word “wine.” Songs of love, toasts, feasts, and ditties poets love to write have in them references to wine, that juice of the vine the use of which has at times been extolled, at times forbidden.

The cultivation of the vine for the manufacture of wine antedates Sanskrit literature, since in it there is no indication that wine was in any way a new product.

Hebrew literature offers one of the earliest examples of its use when Noah, to his chagrin, found the potency of his product, for the statement reads: “And Noah began to be an husbandman, and he planted a vineyard; and he drank of the wine and was drunken; and he was uncovered within his tent.” Other references are familiar both in the New Testament as well as in the Old Testament where wine was used for a drink offering or for sacrificial purposes. A generous collection of references could be made of forbidden and approved usages of wine. Everyone has heard at least a portion of the injunction which has become proverbial: “Drink no longer water, but use a little wine for thy stomach’s sake and thine often infirmities.”

To read of Bacchus and the feasts of the vintage, an erroneous notion is sometimes gained that wine was associated only with hilarity, while back of all this was the more fundamental idea that wine was a part of the diet, for it was supposed to bring sustenance and to have healing properties.

Wine was not a new product to the people of the Homeric times, and it was frequently mentioned with food as a part of the diet. One example of this is: “All of you comfort yourselves with food and wine for in these are vigor and courage.”

From the Homeric poems, on down through Greek and Roman writings, it will be found that wine has ever played an important role in religious rites, at feasts, and in dietetics. In this paper we are interested in that phase last mentioned.

It is difficult to know how far the rank

and file of the Romans paid any attention to the things they ate and drank with reference to their well-being, and the only positive method we have of learning what had been done and was still practiced in dietary measures is to refer to the statements of medical writers.

It is true that the Romans did not advance the science of medicine to any extent, yet what had been done by the Greeks was kept alive on Italic soil by Greek slaves, freedmen, and the few Romans who engaged in this business—for it was not as yet a profession to the Roman. If we are to accept the view of Pliny that the Romans had done without physicians for many years and had got on very well, it shows us that the Romans were neither ready to accept the practice of medicine whole-heartedly nor to put its practice on a high level.

Aulus Cornelius Celsus wrote an encyclopedic work early in the first half of the first century of the Christian Era, and this work treated of philosophy, jurisprudence, warfare, and medicine. Of these writings entitled *De Artibus*, only eight books (Books VI-XIV of the complete work) have survived, which are known as *De Medicina*. We do not need here to go into the controversy whether or not he was a physician, except to state that some hold he was a physician because he wrote so intimately of medicine, at times expressing opinions in the first person; others believe he was not a physician, but a compiler, else he could not have written on so many subjects.

The work of Celsus is the only Latin writing on medical procedure which is a sane exposition of its history and practice. Pliny’s *Natural History* has some interesting statements, but there is bound up with his story too much of the folklore and statements utterly absurd to call it a strictly medical work.

Wines were manufactured and exported from many districts; thus some of them received the names of the districts where

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they were made. A list of these, together with the various kinds of wine and the authors mentioning them, may be found in Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines*.

Celsus employs many adjectives to characterize the wines he refers to, and seldom does he mention special brands, confining these to Greek salt wine, Aminaeum, Rheticum, Allobrogicum, and Signinum. He usually refers to wines as cold, warm, sour, old, dilute, unmixed, mild, etc. His artificial wines are *mulsum* (honey-wine), *passum* (raisin wine), *defrutum* (must boiled down), Greek salt wine, and *resinatum* (wine flavored with resin).

Celsus, mentioning various drinks, says that the most nourishing are those made of grain, likewise milk, *mulsum*, *defrutum*, *passum*, either sweet or strong wine. Those which can be placed in the middle class are vinegar, wine which is a few years old, and sour or light wines. Water is the weakest of all. The stronger the grain, the stronger the drink made therefrom. Stronger is the wine from materials grown on good soil than on poor soil; that from a temperate climate is stronger than that from either too dry or too hot; the weakest from either cold or hot climate. *Passum* is from dried grapes; *defrutum* is slightly cooked; *mulsum* is stronger, having more honey. Rain water is the lightest, then come spring water, river water, well water, and after these, water from snow and ice; more indigestible than these is water from lakes, and worst of all is water taken from swamps.

Dealing with wine in its broad sense of no particular kind or quality, but as a generic term, let us look at some of the passages where Celsus uses this word (*vinum*). These references do not admit of dogmatic classification, nevertheless it is clear that wine was considered as a part of the diet, as an internal medicine, and it was used also in external applications and in medical compounds.

WINE AS AN ARTICLE OF DIET

Since wine, as it has been pointed out, played an important part in the diet among the ancients, and for this reason it was classed as food, let us bring together some statements from medical thought gathered by Celsus in which he deals with wine as an article of diet. Space does not permit our going thoroughly or completely into these passages, but enough will be given to show the emphasis that was placed on this use of wine.

In the introduction to the *De Medicina*,

Celsus, referring to the Empirics, states that a physician will seek new methods in order to bring about a cure, not from hidden conditions, for these are doubtful and uncertain, but from those which are able to be investigated; that is, from apparent causes. Therefore, it is important to note whether fatigue, thirst, cold, heat, restlessness, or hunger causes disease, or whether it is due to excess in the use of food and wine. Diet, then, according to the Empirics, was an important factor in determining the cause of disease.

We have the notion that we are giving more attention to diet today than ever before, and certainly from a scientific point of view this is true, yet regulations for and against the use of food and drink are stamped on every page in Celsus. The methods for "reducing"—which is today so widely advertised and practiced—were not overlooked by our predecessors, and you may compare the modern efforts with these suggestions: bathing in warm water, especially salt water; hot sun; worry; insomnia; too little or too long sleep; a hard bed; running; much walking; all violent exercise; vomiting; purging; acid foods taken once a day; a drink of not very cold wine in addition to the customary amount.

Celsus notes the effects various foods have on the body. Those which tend to produce warmth are pepper, salt, meat juices, dried figs, and wine especially when unmixed. This wine, of course, would have more alcoholic content than the mixed. Elsewhere it is stated that heat is produced by anointing, by using salt water more so if warm, by eating meats, and by taking sour wine after meals.

Among the foods which are least easily broken up in the stomach are leaven bread, milk, honey, pastries, tender fish, oysters, fresh and old cheese, sweet wine, honey-wine, boiled must, and raisin wine. The following foods cause the least trouble in the stomach: unleaven bread, all hard meats, all salted things, sour wine or resin wine. It will be noticed that sour wine is frequently mentioned as the wine most beneficial.

As laxative foods a number of vegetables are mentioned, also apples, dried figs, pure honey, honey-wine, sweet and salt wines, and soft water. The use of salt wines compares with our saline drinks of today in medicinal value. Some of the non-laxatives are certain meats; cheese which becomes strong with age; resin, bitter, or unmixed wines; vinegar; honey-wine

which foment; boiled must; raisin wine; tepid or very cold water.

The inflating articles are nearly all vegetables, rich and sweet things, unfermented wine and wine that has not yet aged. Least inflating are fish, apples, olives, and old wine. A long list of edibles suitable to the stomach is given, among which are sour wine, although it may be bitter, and resin wine.

The general practice of forced vomiting among the Romans is well known. Celsus warns those who would be strong and live a long life to refrain from making this a daily practice and adds that wine is a good thing to settle the stomach after so doing.

FEVERS RECOGNIZED EARLY

The physicians of ancient times gave much attention to fevers and they were acquainted with their characteristics, especially their duration. Wine is often mentioned in connection with their treatment. Lingering fevers do not admit of treatment by diet or any remedy. It is for the physician to change the disease, as Celsus puts it. If there are chill, listlessness, and a tossing of the patient, it may be beneficial to give about one-third of a pint of honey-wine or wine well diluted when food is taken. In connection with this type of fever Celsus relates a treatment given by a certain Petro who, when he found a man with fever, covered him with clothing that he might produce great heat and thirst. Then, when the patient began to recover slightly from the fever, he gave him a drink of cold water, and if this caused a sweat, he judged that he had relieved the sick man. But if this method did not produce sweating, he furnished him with more cold water and then forced him to vomit. If he freed him from the fever by either method, he at once gave him roast of pork and wine.

Several remedies are suggested to relieve chills in connection with fever. First, the food must be especially of that type which will aid a weak stomach, and the wine should be sour, if given. In case of contagious fevers it is least useful to employ hunger, medicine, or purgatives. Here rather earlier than in other diseases use the bath and offer warm, unmixed wine. With fever cases generally the Methodists (followers of an ancient school of medicine) inquire whether the body is bound or flows. In case of the former, liquids ought to be given freely both before and after meals, and with them, even more than thirst requires. Rather rich or somewhat sweet wine can be given after the

bath, and Greek salt wine can be given once or twice in between. In the latter, when it comes to food, it ought to be strengthening, cold, dry, simple—that which is least able to cause distress, as toast bread, roast meat, and sour wine or certainly slightly sour. If the stomach flows, use warm wine; if sweats annoy or there are vomitings, use cold wine.

When Celsus treats of the fevers which have fixed courses, he has set regulations for each day. In the daily fever (*quotidiana febris*) one ought for the most part to abstain for the first three days, then use food on the alternate days. If this condition becomes long-standing, it is beneficial to try bathing and wine after the fever, more so if this fever remains when the chill has passed.

Tertian fever (*tertiana febris*). One of the ancient physicians, Cleophrastus, dealing with this type of fever, used to pour much cold water over the head of the patient and gave him wine long before the attack.

Although Asclepiades followed many of the principles of this man, however, he quite properly passed this by as its results were doubtful. Asclepiades, if the fever was tertian, had the stomach purged on the third day after the attack, induced vomiting on the fifth day after the chill, then after the fever, as was his custom, he offered food and wine, although the patient was yet feverish. He kept the patient in bed on the sixth day, and so it happened that the fever did not return on the seventh. However, it is safer to use this method, namely three remedies: vomiting, purging, and wine for three days, that is, to try it on the third, fifth, and seventh days. If weakness continues, take wine after the fever and a little food at midday. Apparently, the wine here was used as a stimulant.

After the quartan fever (*quartana febris*) has moderated, some food may be given together with a measure of wine, and on the second and third days the patient should abstain, taking only warm water if there is thirst. On the return of the fever, repeat the treatment. On the tenth day try the bath and if fever comes thereafter, employ rubbing and drink copiously of wine. Heraclides of Tarentum advises rubbing, anointing, partaking of nourishing food, and using wine after the fever, and on the following day walking, exercising, and taking food and wine; again abstaining on the third day. In

sickness of this kind the remedies are oil, rubbing, exercise, food, and wine.

A *duae quartanae* fever is mentioned. After the fever comes and goes, take a moderate amount of food and wine; for other times abstain entirely unless weakness persists. In general, then, we see that food and wine were not usually given while the fever was on, but as soon as it subsided nourishment was given to keep up the strength.

The bath has a twofold usage, for sometimes when the fever has been broken up it paves a way to a more general diet and the use of stronger wine for the patient; sometimes it takes away the fever itself.

There is scarcely a disease treated by Celsus that is without some mention of wine. Very briefly I shall mention some of these diseases and state how wine figures in the diet. In drowsiness it is stated that wine given with suitable food aids greatly. In dropsy where fluid is in the abdomen, food is unnecessary on that day when first the humor is expelled unless the strength fails; on the following days both food and unmixed wine may be given, but not too much.

In the various phases of phthisis there is a tendency to the avoidance of wine. For some days drink water, then drink cold water if there is no cough, but if there is, drink luke warm wine. No doubt, the warm wine was prescribed to avoid any shock or nervous reaction to the throat.

With headache avoid the heat of the sun, especially after food and wine. If one has trouble with the oesophagus, he ought to read aloud and walk after reading; then play at ball or arms, or take some exercise to move the upper part of the body. When thirsty, do not drink water, but warm wine, and take food twice a day. Use mild and sour wines.

In case of slow digestion it is wise to read aloud, then to walk, be anointed and bathed. Drink always of cold wine and after food a larger potion, but, as was mentioned before, through a siphon; later to conclude all drinks with cold water.

If an ulcer infest the stomach, about the same things ought to be done as prescribed for the throat: rubbing of the lower parts, light foods, but do not eat to satiety, and take away all things bitter and acid. In addition Celsus says one may use sweet wine if there is no fever, and if there is inflation, certainly use mild wine, but neither very cold nor too warm. More troublesome is it if the stomach is defective in bile, when the diet should comprise

of food easy for the stomach and sour wine. One of the worst faults of the stomach is when it will not retain the food and thereby the body fails to get proper nourishment. Cold wine is very suitable, and very warm, unmixed wine is helpful. Efficacious is Rheticum, Allobrogicum, or other sour wine preserved with resin; if not, these take very bitter wine, especially Signinum.

If there is internal bleeding or bleeding from the mouth, great care must be taken, and if there is no fever the drink may be of sweet wine or cold water. Generally, wine, bath and all things acid are injurious. When, in case of pleurisy the cough has let up, one may take acid foods and unmixed wine.

One method of curing diarrhoea is to eat, then to vomit, to be gently anointed at evening, then on the following day to remain quiet in bed and take about a half a portion of bread with Aminaenum wine and some boiled meat, and then drink wine mixed with rain water. It sometimes happens that, when this disease is neglected for some days, it is more difficult to cure. Vomiting should be employed, on the following day taking a moderate amount of food and unmixed wine as bitter as possible.

There is an ulcer which the Greeks call *phagedaina*, which spreads quickly and penetrates to the bone and eats the body. If after certain treatments the inflammation subsides, the patient may drink as much as he wishes, but he must be content with water. However, at dinner he may have a little sour wine.

When ulcers appear on the tonsils there is need of light food, to which sweet wine may be added. Pure wine and rather more food, providing it is free from acids, are helpful in case of ulcers of the mouth. There is an ulcer which comes from the gums and spreads throughout the mouth, and this is very dangerous in case of children. In this case the nurse of the child must care for her health, drinking water if the child is feverish and dilute wine if he is without fever.

There is a certain fault of the eye called *morbus pedicularis* and this arises within the hairs of the eyelids. It is best to avoid strong foods and to use milk or rich wine. One should drink more than he should eat.

Celsus describes what we now call a cold. Phlegm flows from the head sometimes into the nostrils, sometimes into the throat, which is worse, and sometimes into the lungs, which is worst of all. The nos-

trils are closed, the voice is thick, there is a dry cough, and the ears ring. This trouble is of short duration, but if neglected it is accustomed to stretch out for a long time. There is not much danger unless it ulcerates the lungs. When we feel something of this kind, we ought to abstain from the heat of the sun, bath, and wine, nevertheless we ought to use customary food. If this abates within a few days, then we may drink wine with a full diet, but if this condition persists sour, Aminaem wine ought to be taken, then water for two days, after which return to the bath and regular habits.

WINE AS A REMEDY

Celsus describes the use of wine as a medication, that is, with medicinal value, and under this caption I shall include a few prescriptions in which wine is found as an ingredient, not for the purpose of identifying various drugs or analyzing the compounds themselves, but in order to show that wine was frequently employed in Celsus' pharmacopodia. It is quite probable in these compounds that the wine was added for the purpose of dissolving or preserving other elements of the prescription.

If blood flows from the mouth, hold unmixed wine therein; if this is of little effect, use vinegar. The stomach may be cleared by giving cold milk, salt wine, and if the time of year permits, green figs. If a daily fever comes to be long-standing, try bathing and wine after the fever has subsided, more so if the fever remains after the chill has passed. After a formula has been prescribed in case of dropsy, Celsus notes that sour wine is also useful, but it should be taken as weak as possible.

Sacer ignis is the term for herpes zoster, or shingles, as it is commonly known. This ought to be numbered with the disagreeable ulcers, and if one is afflicted with this disease, providing there is no fever, walking, sour wine, and the bath are helpful. In case of severe stomach pains where other remedies fail, a glass of wine every other hour should be taken until the stomach settles.

Dysentery, he says, is an ulceration of the intestines, and in the first place it is necessary for the patient to be quiet, then, if moving about makes the condition worse, he may be given a measure of wine to which powdered cinquefoil is added. Again, if there is little fever, pure, warm water or those things which are of themselves astringents ought to be given; if there is no fever, offer a light, sour wine.

The ancients knew of poisonous concoctions, and, as we know from many historical allusions, poison was the fashionable, frequent, and effective method of doing away with a public or private enemy. It was necessary to have antidotes to counteract the effects of these drugs of which the Romans had a great store. Celsus devotes a number of pages to antidotes.

It is not easy to aid those who have taken poison, first because they do not at once feel the effect of the poison, just as in case of a snake's bite, so they are not able to aid themselves; more than this, the injury does not begin on the skin, but from within. It is very beneficial as soon as one perceives he has been poisoned that he induce vomiting by drinking a great quantity of oil, then when he has emptied the stomach he should take an antidote, and if this is not done, take unmixed wine. This calls to our mind the stories of the frontier days when whisky in great quantities was given to those who had been bitten by rattlesnakes. There are, however, remedies against certain poisons, especially the lighter ones. If one has drunk Spanish fly (*cantharids*) he ought to be given allheal (*panaces*) crushed in milk, galganum with wine, or milk by itself.

If hemlock is taken, much warm wine should be offered with rue (*ruta*), then the patient should be forced to vomit, and afterwards give asafoetida with wine. If there is poisoning due to white lead (*cerussa*), the juice of mallows (*malvae*) or powdered rush (*iugulans*) with wine is especially beneficial.

As a general rule antidotes are rarely necessary, nevertheless they are needed sometimes because they aid in severe cases. They are properly administered when the body suffers collision from a blow, or when one falls from a height, or when there is pain in the sides, throat, or internal organs. However, they are given particularly against poisons either from bites or from food and drink which have entered our bodies.

Many of these prescriptions are known by special names which are quite the same as trade names. One of these is that which Zopyrus is said to have made for King Ptolemy and is called *Ambrosia*. After stating the elements which go to make up this complicated prescription, the dosage is a quantity the size of an Egyptian bean dissolved in a drink of wine.

The most celebrated is mithridate by the taking of which daily King Mithridates

is said to have rendered his body immune against the dangers of poisons. Of this compound, that which is the size of a *nux Graeca* (almond) should be given in wine.

The scorpion is an excellent medication against its own bite. Some drink it pulverized in wine. Indeed, some in the same way place it on the wound. However, one ought to drink the seed of the herb heliotropium (*solaris*) or certainly its leaves in wine.

Catapotia, or pills, are many in number and are used for various purposes, but their use is dangerous unless there is great need of them, for they are made of exceedingly strong medicines which are foreign to the stomach. One of these which is harmful is composed of mandrake, parsley (*apium semen*), henbane (*hyoscyamus*) placed in wine. There are many references where medicine is to be taken with wine.

Snakes from foreign places are more pestiferous, especially those which thrive in warm places. Italy and colder regions, where the climate is more salubrious, have less terrible snakes. Against their sting betony (*vettonica*), *cantabrica*, or centaury (*centaurium*), elephant's head (*trixago*), *personata* (burdocks) or sea parsnip (*marina pastinaca*) once or twice beaten and given with a drink of wine and placed on the wound is beneficial.

Celsus' treatment of the eye has been considered one of the best portions of the *De Medicina*. A very old authority, Hippocrates, according to Celsus, says that the eyes may be cured by the drawing of blood, by medication, and by wine. After various treatments against inflammation of the eye, Celsus adds: Drink mild, slightly sour, moderately old wine. If anyone perceives a greater distress in the eyes during the bath, he ought to take no wine on that day and even less food than the day before.

Euelpides, who according to Celsus was the most famous *ocularius medicus* of his day, has several prescriptions, one of which is mixed with sour wine, another with Aminaenum wine. Honey and wine relieve scabby conditions in the corners of the eye. This kind of eye trouble and bleariness are benefited if one places on the eyes bread soaked in wine.

There is more danger in treating the ears, for inflammation and pains of the ear sometimes cause dementia and death. As soon as one feels pain in the ears, he should abstain from food. A treatment for ulcerated ears where the condition has be-

come chronic, is given on the authority of Erasistratus as follows: pepper, cucumber, myrrh, copper ore (*misg*), copper scales (*aes combustum*). These ingredients are mixed with wine, then when they become dry add three measures of raisin wine (*passum*), and when this is used add honey and wine.

The prescription of Crato employs cinnamon, *lycium* (a kind of thorn), spike-nard (*nardum*), myrrh, honey, wine of which the *lycium* is cooked in wine, then they are mixed.

If there is a discharge from the ears and there is a swelling, it is helpful to wash the ear with a syringe using mixed wine, then to pour into the ear sour wine to which a little tutty (*spodium*) is added.

When there are worms in the ear, if they are not far in, they can be drawn out by an instrument made for the purpose; if they are far within, they must be killed by medication, and care must be taken that they do not thereafter return. It is necessary to wash the ear with wine in which horehound (*marrubium*) is boiled down. The worms, dying in the first part of the ear, can easily be drawn out.

If there are adhesions in the ear and thick matter settles therein, it is best to use honey and sufficient wine to dilute the myrrh.

In one of the passages dealing with teeth there is this statement: That portion of a tooth which has become black or rough must be smoothed off and smeared with crushed rose leaves to which a fourth part of galls and another of myrrh are added. Also one must frequently hold unmixed wine in the mouth. We wonder what success a dentist would have today who instructed his patient to hold wine in his mouth!

One of the interesting practices of using wine as medicine—no doubt as a stimulant—is the drinking of water and wine on alternate days. According to Celsus, it is better for one suffering from headache to drink continually more of dilute, light wine than of water, so that when his head begins to be rather heavy, there may be something to which he may turn, for usually neither wine nor water is always helpful. Both are medicines when taken in turn.

Celsus gives some hints for those who are well, but who have been exposed, and suggests methods by which they may avoid diseases. In addition to several suggestions he says that one ought not to change his method of living. Not only should

these things be done in every pestilence, but also especially against those ills which the south wind arouses. The same precautions are necessary for travelers when they depart from their homes at an unseasonable time of year, or when they go into unhealthy regions. If anything prohibits one from following these precautions, one ought to abstain from food, and he ought to go from wine to water and from water to wine.

After Celsus has treated of conditions which exhibit certain indications of coming ill health, he sets forth treatments which should be undertaken. If any of these symptoms appear, quietness and abstinence are best of all. If one must drink something, it should be water. Sometimes these precautions are sufficient for one day, at other times for two days if the symptoms are alarming. After abstinence, a little food and water should be taken, then in turn on alternate days take wine and water until all cause of fear is ended.

In certain phases of dropsy it is necessary to subject those parts which swell to the sun. Food should be of the type which is strengthening, and wine, if the stomach can take it, should be rather sweet, but for a period of two or three days in between water should be taken.

Convalescents ought often to change their place of residence, climate, and food. When they drink wine for three or four days, water ought to be taken for one or two days in between. In case of continued fatigue one ought to drink in turn wine and water and seldom use the bath. A patient suffering from tenesmus should not count this with serious nor prolonged diseases. On alternate days one ought to drink first water, then a mild and sour wine.

WHEN WINE IS TO BE AVOIDED

Although Celsus prescribes the use of wine under certain conditions, it is important to notice there are times when the use of wine should be restricted or forbidden altogether. In the few references selected to show that medical practice did forbid the consumption of wine, we must conclude that, whatever healthful properties it possessed, it was not considered a panacea for all ills and at times considered positively harmful to indulge.

Those of middle age most easily endure fasting, young men less easily, and boys and those wasted with age, the least. He who endures abstinence less easily ought to take food more often, and especially is he who is growing in need of food. Rather

dilute wine is better for boys and unmixed for the old; neither should take wine if it causes inflation. Generally speaking, boys ought not to be cured as men, therefore as in other types of diseases, one should use the following treatments rather sparingly: cure by letting blood, by purging, by hunger, by thirst, or by wine.

If there are slight indications of disease, it is sufficient to abstain from wine, and this abstinence from wine aids more than if food is withheld. If the symptoms are slightly more pronounced, one ought to drink less of water and even remove meat from the diet. Sometimes it is better to eat less bread than customary and to be content with soft food and oil. When somewhat violent symptoms are alarming, one should abstain altogether from food, wine, and every movement of the body.

A chill usually precedes those fevers which have a fixed course, after which they generally let up, so they are least dangerous and admit of cures. For when these fevers are uncertain in duration neither purging, bath, wine, nor any other medication may be given safely. Since it is uncertain when the fever will come, it thus happens that the fever develops suddenly and the greatest danger lies in the fact that relief has not been found.

Of the various phases of insanity which are discussed, there is one which does not begin with a fever, but finally a slight fever does arise and the patient is afflicted with sadness. Letting of blood is useful, but if anything prevents this, there should be first a purging by white hellebore (*album veratum*). Afterwards, on the second day rubbing must be employed, but if this does not help, make the patient exercise frequently. Food carefully selected should be given without wine.

Another type of insanity is characterized by hallucinations. Some are deceived by imaginations similar to those which, as the poets say, seized Ajax and Orestes when mad; others become silly. After various treatments are recommended, it is suggested that the insane ought to exercise violently, to use much rubbing, and to avoid rich meat and wine.

In diseases of the stomach, unless it is necessary, one ought not too hastily to turn to wine, but if it is feared that the patient become weak, lukewarm, sour wine must be given freely. When the patient seems to be well, one must take care lest he fall into the same weakness, therefore he ought to take stronger food each day.

omitting nothing but wine until he regains sufficient force for the body.

In phthisis it is stated that vomiting is frequent, and this is dangerous, especially so if there is blood in the sputum. If the patient begins to be slightly better, he ought to increase his exercises and nourishment, then he should rub himself while holding his breath. For a long time abstain from *vinum*, *balneum*, and *venus*—these three words are often found together in a like connection.

Epilepsy is a disease which the ancients knew very well, and there is no doubt that it was rather commonly found. Many well known historical personages are said to have suffered from it. The Romans had many names for this disease: *morbus sacer*, *divus*, *Herculeus*, *caducus*, *lunaticus astralis*, *demoniacus*, *maior*. Celsus calls it *morbus comitialis* because assemblies in the forum were broken up if one were seized with an attack. People so afflicted should avoid the sun, bath, heat, cold, wine, the sight of steep places, and of all things terrifying, vomiting, and all business.

Rarely do we see those stunned whose bodies and minds are stupified. This sometimes happens from a blow of lightning and sometimes from a disease which the Greeks call *apoplexia*. Blood should be drawn from them and wine must be avoided.

There is a disease which arises about the face which the Greeks call *spasmus cynicus*, and this is usually attended with an acute fever. The mouth is twisted with a certain motion and there is a change of color in the face and over the entire body. The patient is drowsy. In this case it is best to let blood, purge, and induce vomiting. Besides these things it is necessary to avoid the sun, weariness, and wine.

Jaundice is a disease known sometimes as *arquatum*, sometimes as *regium*. After giving a treatment of an earlier physician, Celsus adds: If there is sufficient strength, offer stronger food; if not, the food must be light. On the third day the patient ought to take a moderate amount of food and to drink Greek salt wine that the stomach may remain purged. Later he should take stronger foods and after he has gained his strength omit Greek salt wine and drink sour wine. At all times the patient should use exercises and rubbing, and if it is winter, the bath; if summer, cold swims. He should have an ornamented room, amusements, and games by which the mind is exhilarated, and on account of

this it is said that this disease was called *regius morbus*.

A common disease found everywhere is the *resolutio nervorum* sometimes invading the entire body, sometimes portions of it. Ancient authors call the former *apoplexia*, the latter *paralysis*. In these cases the food ought to be selected with care and the drink should be warm water without wine; however, if the disease has continued for some time, on every fourth or fifth day Greek salt wine may be used for purging.

If there is a sharp pain in the head, it is best to abstain from food and, if possible, from drink; at least, take nothing but water. If on the following day the pain remains, purge, taking nothing but water. After the first or second day the pain will be gone entirely, providing the cause of the distress was from wine or indigestion.

Some have cured themselves of gout by drinking ass's milk, while others gained relief for the rest of their lives by abstaining from wine and *mulsum* for a whole year.

Celsus makes this statement when discussing wounds: The age of the patient, the condition of his life, and the time of year have some bearing on the recovery of the sick, because a young person gets well more readily than an older person, a strong man than a weak, an active man than an inactive, a sober and temperate man than one given to wine and lust. Wine is dangerous to those who have wounds, while there are fever and inflammation. In case of deep wounds, certain medications and plasters are recommended after which he adds that one should eat less food and that wine should be withheld. When there are deep seated ulcers and medicine does not help, one must resort to cauterizing, but in a case of this kind the patient must abstain from food and wine, and drink liberally of water, although water must not be given if there is fever.

When there is pneumonia and the whole lung is affected, the use of plasters is recommended. In addition, it is helpful while the disease is running its course to keep the patient in a room where the windows are closed, then when the fever has lessened slightly on the third or fourth day open the windows slightly to admit fresh air. During the period of recovery, abstain from wine for many days.

There is one faulty condition of the ears when they receive no sounds from the out-

side. Various causes for this condition are discussed and Celsus concludes that the patient should take care of his general health, and besides one must abstain from wine until the ringing in the ears ceases. Toothache can be numbered among the greatest torments, and while this condition exists wine must be avoided.

WINE APPLIED EXTERNALLY

There remain a few remarks concerning the use of wine as applied to the body, and in most instances it is found as one ingredient of liniments or preparations for external treatments which were applied to many parts of the body and various surface conditions; for example, eyes, ears, nose, corns, ulcers, gout, condyloma, sciatica, and many others.

When one is threatened with fever due to exhaustion, the body should be rubbed gently with oil to which wine and a little powdered salt have been added. If perspiration flows freely, the skin must be hardened by natron (*nitrum*) or by salt mixed with oil, and if this condition is rather serious, use rose or myrtle to which sour wine is added.

Cold water, wine, or vinegar may be applied to a wound to stop bleeding. In another place Celsus states that the first procedure in case of a wound is to place on it a sponge dipped in vinegar, but if one cannot endure its strength, wine must be used. When an ulcer breaks open, it should be cleansed and the flow of pus must be checked by using wine mixed with rain water in which lentils are boiled. Black ivy (*hedera*) boiled in sour wine is efficacious in case of shingles.

Ulcers are caused by the cold during winter, especially among children, and they affect particularly the fingers and toes, sometimes even the hands. If these ulcers appear, powdered alum with equal portions of frankincense (*thus*) and wine should be applied.

Dandruff exists at the roots of the hair

when little scales appear, and these come loose from the skin. Sometimes these scales are moist, but more often they are dry. This condition usually occurs in the hair of the head, less frequently in the beard, sometimes even in the eyebrows. It is advantageous to remove these scales frequently by combing. If, however, this is not a satisfactory method, the head must be shaved and certain medications applied to the scalp, such as natron (*nitrum*) with vinegar, ladanum with myrtle ointment and wine, or myrobalanum with wine.

By bringing together these references which have been culled from Celsus' *De Medicina*—the Latin text of which makes a book of about 400 pages—a few conclusions may be deduced regarding the consumption of wine by the Romans, particularly from a medical point of view.

In the first place, by way of summary, wine is mentioned repeatedly as an article of diet, and this can be confirmed by numerous references in prose and poetry of classical Latin. It is of interest here to observe that medical practice also regarded wine as such. In the next place, wine was a medicine, used not only by itself for its own curative properties, but also in quite another way it was the liquid in which drugs of prescriptions were dissolved, thus forming a mixture. In the same way wine was employed in prescriptions, plasters, and ointments for external treatment and applications. Wine by itself was supposed to have healing properties when applied as external medication, and the Romans recognized it to be a cleansing agent when treating wounds.

The Romans, as well as the Greeks, were never "hard drinkers", for in their literature there are repeated references to their disgust at drunkenness. This is clearly evinced by the fact that only occasionally did they drink their wine unmixed. As we have seen, Celsus is emphatic in his warnings that under certain conditions wine must not be taken.

PHYSIOLOGY OF MICTURITION

In studying the physiology of micturition, the cystometer that Francis H. Redewell, San Francisco devised has proved especially valuable in that it records the time element during the process of filling and emptying of the bladder, thus indicating variance in tonicity of the bladder wall and making it possible to diagnose such conditions as physiologic or pathologic herniation. Barium solutions can be used as irrigating mediums to study pathologic bladder conditions with the fluoroscope. The new portable cystometer will aid

materially in studies of the bladder and its action with the cystoscope and fluoroscope. With this new cystometer, the time element, as well as volume and intravesical pressure, are simultaneously recorded with ink on a tape that remains as a clean, inexpensive, permanent record. Neurogenic conditions of the urinary bladder, as well as tumors, diverticula and obstructions of the vesical neck, are more easily and quickly diagnosed in children and in adults by utilizing, along with other measures, the new cystometer.—Journal A. M. A.

STUDIES ON TUBERCULOSIS IN CHILDREN II—PULMONARY TUBERCULOSIS

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In the first paper* of this series tuberculous tracheo-bronchial adenitis was discussed. The present paper will deal with another manifestation of tuberculosis in the child: pulmonary tuberculosis.

In the Bulletin of the New York Tuberculosis Association, of 1924¹ it was stated that 16,458 cases of tuberculosis were known at that time in New York state. Of this number 4,569 were children. The findings in New York state may very well be taken as an indication of the relative number of adults and children with tuberculosis in any of the various states, and indicate the need of greater study of the disease in the child. The figures given comprise all types of tuberculosis. Many authors have called attention to the large number of children who have pulmonary tuberculosis. Gibson and Carroll² reported 17.3% of the children admitted to Meriden State Sanatorium in 1922 had pulmonary tuberculosis. O'Brien and Ames³ stated that 24% of children with tuberculosis, admitted to the Boston Consumptive's hospital, had pulmonary lesions, of which 50% were below 10 years of age. Hamburger⁴, in 1917, stated that 33 children out of 110 fatal cases in his care had chronic pulmonary tuberculosis. Griffin⁵, in 1922, said that one out of every thousand children has pulmonary tuberculosis. In 1927, Gibson and Carroll⁶ quoted the statistics from Undercliffe Sanatorium, where 10% of the children admitted during that year were diagnosed as having pulmonary tuberculosis, with twice as many girls as boys in that number.

AGE

The age of the child at the time of exposure to tuberculosis has considerable bearing upon the type of lesion which the child will develop. In early infancy, the exposure frequently results in the "Infantile Type", or generalized tuberculosis, involving the lungs as well as other parts of the body, and terminating, most frequently, in a meningitis. Myers⁷ says the most favorable age of infection is from three to fourteen years. In O'Brien and Ames' series of cases mentioned before, 5% were between two and six years of age; 6% between seven and ten years; and 13% between eleven and fifteen years of age. Opie and McPhedron⁸ say that manifest pulmonary tuberculosis is most frequently seen between the ages of eleven and sixteen, but that the disease may mani-

fest itself at any time between the ages of five and twenty-one. John Guy⁹, speaking of the death rate from pulmonary tuberculosis in Scotland, in 1920, stated that the death rate in children under one year was 18; from one to five years, 78; from five to ten years, 72; and from ten to fifteen years, 141. Markuson and Schatalowa¹⁰ found 50% of children between the ages of eight and eleven years and over twelve years to belong to Ranke's tertiary stage. Gittings, Lathrop and Anderson¹¹ consider the prognosis bad in children who are infected after the sixth year and who develop pulmonary tuberculosis from this infection. The longer the latent period between infection and manifest disease, the better the prognosis. In the article by Gibson and Carroll quoted above⁶, 32% were boys, and of these 37% were between one and ten years of age, and 63% between ten and fifteen years. Of the 68% of girls, 21.6% were between one and ten years of age, and 78.4% between ten and fifteen years.

Out of 68 children admitted to this Sanatorium in 1927, 23, or 33% had pulmonary tuberculosis. Thirteen of these 23, 57%, had cavity formation, and 18, 80%, had tubercle bacilli in their sputum or bacilli were found in feces. Five, 22%, of the 23 children were under ten years of age—one was only one year old; seven, 30%, were in their fifteenth year; four, 17%, were thirteen years old and three, 13%, were fourteen years of age. Eighty per cent of the group of 23 were girls, only one of whom was less than ten years of age. Of the five boys, three were under ten and two were over ten years of age.

TYPE OF LESION

In the infant, the generalized type of tuberculosis may be localized mostly in the lungs and may simulate an acute bronchopneumonia, or may be of a marantic type in which there are very few signs, but a prolonged wasting¹². Watt¹³ says tuber-

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* Tuberculous Trachio-Bronchial Adenitis, by Clarence A. Ryan, Journal M. S. M. S., June, 1928.

culous bronchopneumonia or caseous bronchopneumonia is the most frequent form of pulmonary tuberculosis in the infant. Under five years of age tuberculous bronchitis is more frequent. Epituberculosis has been mentioned by Eliasberg and Neuland¹⁴ as one of the frequent forms of lesion in infants. Armand-Delille¹⁵ refers to this same form of lesion as chronic tuberculous splenopneumonia, and Ribadeau-Dumas¹⁶ gives it still another name, calling it "Gangliopulmonary Tuberculosis." O'Brien and Ames, in the small series of cases considered by them, found the lesion in the right upper lobe in 50% of cases; in the left upper lobe in 33%, and in both upper lobes in 16.5% of patients.

PRIMARY FOCUS AND METHOD OF SPREAD

In the article on tuberculous tracheobronchial adenitis¹⁷ it was stated that the primary focus is in the parenchyma of the lung. If this statement is accepted, we see that practically every child who is exposed has at some time a parenchymal lesion. This primary focus is rarely the direct antecedent of manifest disease. From this primary focus the disease spreads to the tracheobronchial glands along the direct communication of the lymph channels. If manifest disease appears in the parenchyma of the lung, how does the infection spread from this primary focus? There are four possible methods of spread: (1) *Retrograde lymphatic flow*. As shown in the article referred to above, this possibility is very slight. Only in the event of blocking of the lymph stream and the development of sufficient back pressure could this method of spread occur. Beitzke¹⁸ says that even in this event the spread could be only for a very short distance. (2) *Direct extension from enlarged tracheo-bronchial lymph glands*. McPhe-dran¹⁹ has stated that he has seen an occurrence of this only once in 4,000 specimens of post-mortem material. In many of the X-ray plates taken on children with tuberculous tracheobronchial adenitis, a shadow can be seen extending out into the neighboring lung field from the region of these glands which might lead to the conclusion that the disease is actually spreading from the glands into the parenchyma of the lung. Definite mottling, however, is never seen, and this circumfocal inflammation resorbs leaving no trace of its former existence. (3) *Rupture of a caseous gland into a bronchus*. This does occur, and is not infrequent. Pressure of an enlarged gland may erode a bronchus, and in a recent case observed here, a primary

bronchus was eroded for a distance of three centimeters, the eroded bronchus lying in a cavity resulting from the expulsion of the caseated gland. Rupture of a gland into a bronchus may result in a spread of the disease throughout the parenchyma of the lung supplied by that bronchus. Hempelmann²⁰ states that rupture of a caseous lymph node into the trachea or bronchus may result in severe asphyxia or even death. Poynton and Williams²¹ also refer to a case where sudden death resulted from blocking of the air passages by a caseous gland. (4) *Hematogenous spread*. Rupture of a caseous focus into a blood vessel or progression of the primary infection through the lymph stream to the venous angle and thence into the blood stream, produces hematogenous spread. Reinfection occurring either in the course of the disease or closely following it, often simulates a spread from the existing focus.

While *exogenous reinfection* may occur, the majority of authors seem to consider it relatively uncommon. Ghon²² says the primary focus may heal but the resulting glandular infection may spread from one gland to the next, and while the glands in the lymph channels leading to the root of the lung may be healed, the gland at the junction of the thoracic duct and the vein remain active, causing endogenous reinfection.

Paraf²³ believes that after the eighth year primary infection never occurs but that activity occurring after this age is always a reinfection. In his 32 cases, 31 were the result of an endogenous reinfection.

The number of children who have come to post-mortem here in the past two years has been so small that we do not have much evidence to offer in regard to the aforementioned modes of spread. Rupture of a caseous gland has been seen as stated. In several cases, spread of the lesion has occurred in a manner very suggestive of a hematogenous spread;—that is, multiple bone and joint lesions developing in a child with tuberculous broncho-pneumonia or from an apical pulmonary lesion, tuberculosis of the genito-urinary system developing in a child with a pulmonary lesion and tuberculosis of one hip developing from or in the presence of, a tuberculous lesion in the opposite hip. None of these children has come to autopsy, except the one child with a ruptured caseous gland.

LOCATION OF LESION

Five or six years ago, several articles were written in which it was claimed that the characteristic tuberculous pulmonary lesion in the child was a basal lesion. Today the opinion has changed and it is recognized that pulmonary tuberculosis may have in the child a location similar to that in the adult. McPhedran²⁴ says the lesions seen by X-ray, are most frequently in the lower part of the pulmonary cone, next in order in the tracheobronchial glands and least frequently in the apical regions. Griffin⁵ on the other hand, found most frequently apical lesions. In 2,000 children examined at the Lymanhurst school, 30 were found to have a pulmonary lesion, 6 of these had pneumonia, and in the remaining 24, the lesion was in the upper left lobe in 8, in the upper right lobe in 12, and in both upper lobes in 4.

In 20 children with pulmonary tuberculosis who have been patients in this sanatorium within the past year, there has been only one child with a basal lesion which was considered tuberculous; 8 of these 20 children had their lesion in the right upper lobe; 4 in the left upper lobe; 1 in both upper lobes, and in 6 practically the whole of both lungs was involved. There were four additional children with basal lesions, in whom a diagnosis of bronchiectasis was made, although the presence of tuberculosis as an etiological factor was not definitely disproven.

Gibson and Carroll⁶ state that the duration of the illness in lesions in the left upper lobe is longer than in lesions in other parts of the lungs. In their series of cases, the duration in the left upper lobe lesions was three years and seven months; in right upper lobe lesions, one year and seven months, and in lesions in other parts of the lungs the duration was approximately the same as for right upper lobe lesions. No mention is made in their paper upon the type of lesion encountered, which would have a definite bearing upon the question.

NORMAL CHILD'S CHEST

In order to make a proper diagnosis of pulmonary tuberculosis in the child the physician must be thoroughly acquainted with the normal child's chest. There are a few points wherein the normal child's chest differs from that of the normal adult's chest. The normal outline of the infant's chest is cylindrical, becoming more conical or dome shaped as the child nears puberty, from which time on, the shape of child's chest is similar to that of the

adult's. The anterior-posterior diameter is greater than the transverse diameter of the chest until about the third year, after which time the transverse diameter is the greater and this diameter steadily increases up to adult life. Because of the shape of the child's chest, the lungs lie more posteriorly than in the adult. In the infant the respiratory rate during sleep is approximately one and a half times as rapid as in the adult; the older the child, the less rapid the respiratory rate. Diaphragmatic type of breathing persists in the child up to the seventh year. In infants the lungs may extend unequally, one lung may seem to be carrying on respiration while the other lung appears almost immobile. The regular rhythm of respiration is not established until the end of the second year. For this reason very slight stimuli may cause a quickening of the respiratory rate. The chest walls are more elastic, due to the cartilaginous consistency of the framework, and the walls are thinner than in the adult, this being due to imperfect development of the thoracic muscles. The diaphragm is higher than in the adult. In the child the size of the trachea and bronchi is relatively larger than in the adult, hence the vocal fremitus is more intense and a bronchial fremitus may be produced by very small amounts of mucous in the bronchial tubes.

Since the chest wall is thinner, and the bronchi relatively nearer to the chest wall than in the adult, the percussion note is more tympanic and very light percussion must be used in the young child. The percussion note is exaggerated between the scapulae and beneath the clavicles, especially on the right side. Cracked-pot resonance may be elicited here, even in health. Also, in the left lower lobe the percussion note may be higher and fuller (Austrian²⁵, Holt²⁶).

On auscultation the breath sounds in the child are normally puerile, rather rough in character, loud, and sound very near to the ear. Tracheal and bronchial sounds are more distinct since they are transmitted through a thinner layer of lung tissue and chest wall than in the adult. The breath sounds are especially loud in the inter-scapular region and beneath the clavicle, and again, especially on the right side. Holt²⁶ draws attention to the necessity of changing the position of very young children in order not to be misled by apparently feeble respiratory murmurs on one side. The expiratory phase is longer in the child than in the

adult. The vesiculo-bronchial respiratory murmur heard over the great bronchi has often been interpreted as evidence of pulmonary disease, as Austrian²⁵ has pointed out. Owing to the thinness of the chest wall it is often hard to differentiate between rales pleural in origin from those which are bronchial. Part of this difficulty may be overcome by inducing the child to cry, or in older children, as in the adult, by induced coughing.

DIAGNOSIS

Austrian²⁵ places no significance upon very slight impairment of resonance over the apices unless such impairment be accompanied by modifications in the breath sounds or other abnormal findings. Areas of consolidation may exist without appreciable change in the percussion note, either because they are superficial and surrounded by healthy lung tissue, or because they are overlaid with emphysematous lung. Emphysema in the child can occur very easily, but seldom persists²⁶. Flatness should always suggest fluid, even the bronchial breathing can be heard over the flat area. Bronchial breathing is transmitted through the fluid owing to the nearness of the bronchi to the chest wall. Exaggerated peurile breathing may be confused with bronchial breathing for the same reason, and bronchial rales with friction sounds as mentioned before. In the presence of increased density over the bases, a history of measles, pertussis or the presence of enlarged tonsils should be sought²⁵.

HISTORY

With the foregoing in mind, we can proceed to the diagnosis of pulmonary tuberculosis in the child. Dunham²⁷ has said that we are dealing with a potentially tuberculous child rather than with a tuberculous lung. In the infant this is quite true, but the older the child, the better localized the disease becomes. The ease of diagnosis depends upon the type of chest and upon the type and form of the disease. Comparative changes must be accepted as sufficient to warrant further study. Paraf²³ lays great stress upon a past history of measles, whooping cough or influenza, and says that in the majority of cases a history of one of these will be found, the illness preceding by less than six months the beginning of tuberculosis. To these three—measles, whooping cough and influenza—Gibson and Carroll⁶ add tonsilitis. In reviewing the histories of the children admitted to this sanatorium, it is

exceptional to find a child who has not recently had one of the above mentioned illnesses. In the children in whom a complete history could be obtained, 85% had had measles, 61% whooping cough and 38% influenza; 23% had had a combination of measles and whooping cough and 23% had had all three—measles, whooping cough and influenza. Measles especially seems to have had a bad influence upon the resistance of the child to tuberculosis. During the course of measles the tuberculin test, which has been strongly positive previous to the onset of the measles, will become less intense, and as soon as the attack has passed over, the test will return to its former intensity, showing that during the infection with measles, the resistance of the child to tuberculosis has been broken down.

Concerning a familial history of tuberculosis, Drolet²⁸ says such a history in the child argues for better results in the treatment. Harbitz²⁹ says children of tuberculous parents are just as strong and as free from disposition to tuberculosis as other children. The majority of children admitted to this sanatorium do have a positive family history, though the course of the disease in those without such history does not seem to differ from those who have a positive history. As mentioned above, the longer the latent period between infection and manifest disease, the more favorable the prognosis¹¹.

SYMPTOMS

In the symptomatology of the children admitted here we find 55% complain of cough, 30% of fatigue, 43% expectorate, 25% complain of shortness of breath, and 25% sweat excessively. True night sweats are seen in approximately 33% of children with active pulmonary lesions, and elevation of temperature, especially in the afternoon, is common. Eighty per cent were 10% or more below normal weight. Pallor is often marked, even though the hemoglobin percentage is normal for the age of the child. Hemoptysis occurred in two of the twenty-three children. Anorexia, hoarseness and pleurisy have been noted by Gibson and Carroll⁶. In 27% of the admissions here in 1927, tubercle bacilli were found in the sputum. This is somewhat lower than the figures given by the above quoted authors, who report positive sputum in almost 50% of admissions. Rapid progression and regression of the lesions is characteristic of children. Many of the children admitted to this sanatorium

have been classified as "minimal" cases on the record sent out by the board of health; whereas, upon admission to the sanatorium three or four months later, the lesions are already well developed. Paraf²³ says caseation may develop within a few weeks, and that cavities can be demonstrated by the X-ray in almost all. Freeman³⁰ says of tuberculosis in early infancy that it is characteristic to find considerable fever, little or no increase in the leucocytes, and little emaciation.

OBSERVATION

The appearance of the child may be misleading, especially in infants. Very often the nutrition of younger children is apparently good. In older children, faulty posture, tired expression about the eyes, and moderate pallor is seen. In the older child, great inroads upon the nutrition are seen, varying directly with the extent of the pulmonary tuberculosis. Sutherland³¹ refers to "the facies of tuberculosis", especially in the child; an "expression of thought upon the child's face." He also speaks of "fairy" and "manikin" types of appearance.

PALPATION

Loss of muscle tone is more noticeable in the child than in the adult, but palpation is often misleading because of the thinness of the chest wall.

In discussing the normal chest, reference was made to slight changes in the percussion note and the statement was made that such changes were of no significance unless accompanied by other abnormal findings. Impairment of the paravertebral percussion note may be due to changes around the lung root. Riviere³² says it is a surface reflection of these distant changes.

AUSCULTATION

Breath sounds which are increased, harsh or "cogwheel" type, accompanied by percussion changes, mean changes in the pulmonary parenchyma. Hutchinson³² says rales are less frequent in the child than in the adult. What he probably means is that the lesion is not seen when rales are present, and when the lesion is discovered by X-ray or other methods, rales are no longer heard. Bronchial rales, as has been mentioned, are often difficult to differentiate from friction sounds.

X-RAY

Unless the disease is already well advanced there is a great paucity of symp-

toms and physical findings. The early diagnosis of pulmonary tuberculosis in the child is very difficult. It is in tuberculosis of childhood that the X-ray is of the utmost value and importance. In almost every case of tracheo-bronchial tuberculous adenopathy, the roentgen-ray plate shows evidence of present or former parenchymal activity, lesions which were too small to produce symptoms or signs and in which clinical examination failed to show the location of the lesion. Hutchison³³, Myers³⁷, and Chadwick³⁴, have all drawn attention to the presence of parenchymal shadows which have not produced clinical signs. These men are emphatic in stating that were X-ray plates of the chest made in obscure cases of low grade ailments of children, many cases would be shown to be due to pulmonary lesions. O'Brien and Ames³ showed that 40% of their cases with pulmonary tuberculosis in children were roentgenologically positive, which lesions gave no clinical evidence of disease. For this reason they advise frequent serial plates. Riviere¹² says that the X-ray is especially important in children between one and five years of age. McPhedran²⁴ says "apical infiltration frequently can be recognized by X-ray in a child before symptoms appear." Bruum considers the X-ray to outrank clinical examination. In many of the early cases of pulmonary tuberculosis in children, very slight or even indefinite clinical evidence will be found which, of itself, is not sufficient to label the child tuberculous.

Serial X-rays are made in this sanatorium at intervals of three or four months, often at much shorter intervals; and in these serial plates slight changes in the pulmonary disease can be shown where clinical examination has failed to demonstrate any change, or even where clinical signs have been consistently absent. In re-reading these serial plates at the time of discharge of the child, we can often detect shadows which, seen in a single plate, would not warrant a positive diagnosis, but when the shadow is seen in a series of plates either showing clearing or progression of disease, even in the absence of clinical signs, a definite diagnosis can be made. Sutherland³⁰ places more value upon the fluoroscopic picture in these early cases than upon the X-ray plates. While the fluoroscope may show evidence of a lesion slightly earlier than the X-ray plate, the plate remains of the greater value, since the evidence presented by the X-ray plate

remains as a permanent and indisputable evidence of the presence of an infection.

SPUTUM

In speaking of the symptomatology, mention was made of tubercle bacilli in the sputum of these children. It is very difficult to teach the younger children to expectorate. The older the children, the easier it is to obtain sputum for examination, and this may account for the variation in the percentage of positive sputum found in children. At the present time an attempt is being made in this sanatorium to obtain sputum from the younger children by stimulating coughing by laryngeal swabbing. This work will be carried out on all the children who have pulmonary lesions in whom bacilli have not been demonstrated in the sputum. Bacilli have been demonstrated in the sputum of practically every case of active pulmonary tuberculosis in the adult patients here, and it is hoped that a much higher percentage of positive sputum will be found in the children.

TESTS

When tuberculous tracheo-bronchial adenitis was discussed, mention was made of various tests such as the sedimentation test, which might be of value in establishing a diagnosis or of assistance in stating prognosis. As was stated in that paper, none of these tests is of much value in establishing a diagnosis.

COMPLICATIONS

As in the adult, complications occur. Among these are: (a) Pleurisy, either with or without effusion; if effusion does develop, the effusion is rarely large enough to be recognized clinically, though recognized by the X-ray. Pain in pleurisy in the child is infrequent²⁰. (b) Chronic otitis media is frequently seen both accompanying pulmonary tuberculosis and tracheo-bronchial adenitis in the child. (c) Gibson and Corroll⁶ have seen laryngeal involvement in several of their cases. In the children seen at this sanatorium definite involvement of the larynx has been seen only once in the past year, and that in a child with a far advanced pulmonary lesion. A constant hoarseness was present in a boy of twelve years of age without any demonstrable tuberculous laryngeal lesion, and occasional attacks of hoarseness have occurred in several children when no laryngeal involvement could be seen. (d) Emphy-

ema occurred in one child in the past year. (e) Intestinal lesions, either enteritis or peritonitis have occurred as a complication of pulmonary tuberculosis in three children. (f) Attacks of diarrhoea, especially among the younger children are not uncommon, but are not relatively more common than in so-called healthy children.

CAVITY FORMATION

Many authors have written about the occurrence of cavities in children. Mairesse³⁵, Randolph³⁶, Scholt³⁷, White and Carpenter³⁸, Asusset³⁹, Babeau⁴⁰, Comby⁴¹, Delande⁴², Geipel⁴³, Kuss⁴⁴, L'Homme⁴⁵, Laroux⁴⁶, have all reported finding cavities in the lungs of young children. In addition Ghon⁴⁷ reports cavities in 43.75% of children seen at postmortem, Ribadeau-Dumas⁴⁸ 32.3%, and Farmer⁴⁹ found thirteen cavities in 63 children. He says cavities are not exceptional in infants between six and eighteen months of age, but that the clinical diagnosis of cavity in such children is very difficult, only one case in seven giving any signs of activity. Paraf²³ contends that cavities can be demonstrated in every child over eight years of age by the roentgen-ray. Fischl⁵⁰ has shown that clinical signs are misleading and do not correspond to autopsy findings and that, therefore, cavities are often not detected during life. In looking over the X-ray plates of the children here with early pulmonary tuberculosis, I cannot find one plate which shows a clear-cut picture of cavity. Either the children coming under our care differ from those seen by Paraf²³ or we differ in the interpretation of the roentgen plates. When the disease becomes more advanced, cavity formation becomes very frequent. In the twenty-three children with pulmonary tuberculosis admitted to the sanatorium in 1927, fourteen were far advanced and six moderately advanced. In thirteen of these twenty children cavities were demonstrated, either by X-ray or clinically. In twelve of the thirteen clinical signs were sufficient to warrant a diagnosis of excavation. In two children cavities were suspected from clinical evidence when the X-ray failed to show them, the suggestive clinical findings being caused by the enlarged tracheo-bronchial glands which were present in association with a parenchymal lesion.

Spontaneous pneumothorax as a complication of pulmonary tuberculosis, mentioned by some authors, has not been seen here. Hempelmann²⁰ states that spontane-

ous pneumothorax is more commonly a complication of caseous pneumonia. Since the lung tissue is more friable in the child than in the adult, rupture of lung alveoli and a subsequent spontaneous pneumothorax is a possibility, though not met with in the last two years here.

EPITUBERCULOSIS

Epituberculosis was mentioned earlier in this paper. A few words concerning this type of lesion may not be amiss. Eliasberg¹⁴, Neuland and Hempelmann²⁰ describe it as follows: A chronic non-tuberculous or non-specific process, occurring in the first three years of life, insidious in onset, running a chronic course, lasting from a few weeks to months or even years, followed by complete recovery, the X-ray showing no evidence of a former activity except that the tracheo-bronchial glands remain enlarged. There is an extensive area of dulness over which bronchial breathing is heard, with few or no rales. The roentgenray shadow is a dense, homogenous shadow and corresponds to the area of dulness. The leucocytes are increased, but the differential count is nearly normal. The child coughs, but no tubercle bacilli have been demonstrated in the sputum of these children. There is loss of weight and appetite, the child reacts to O. T., and night sweats are usually absent. The elevation in temperature is less than would be expected from the extensive physical and X-ray findings. Armand-Delille¹⁵ says he has seen epituberculosis, or, as he calls it, chronic tuberculous spleno-pneumonia, in children of eleven and twelve years of age, in contradistinction to the above authors, who place the age of occurrence between birth and three years of age.

During the past two and a half years the diagnosis of epituberculosis has not been made in a single child at this sanatorium. We have seen several children in whom the history, physical findings and roentgenray were very suggestive of the lesion described by the above authors, but in none were we satisfied with that diagnosis. Elisberg and Neuland state that the lesion is non-tuberculous, and if that is accepted, we cannot substantiate such a diagnosis in the children that we have seen here, since in every one we had reason to believe that tuberculosis was a factor in the etiology; that is, the children had a definite history of exposure to tuberculosis, and they reacted to 1/10 cc. of 1/10000 O. T. given intradermally.

PROGNOSIS

Asserson⁵¹ has shown (a) that 46% of children placed in contact with tuberculosis develop manifest disease; (b) of those children who are infected before six months of age and who develop manifest disease, all die. Gertrude Klostema⁵² places the mortality in the first year from manifest disease at 51%. According to Nassau and Zweig⁵³ all children diagnosed in the first three months of life die; 87.5% of those diagnosed in the second three months die; and 30.8% of those diagnosed in the second half year of life die. Riviere³² considers children between five and fifteen years of age comparatively exempt from fatal tuberculosis. His reason for that statement is, probably, that children during those years develop a tracheo-bronchial or other glandular lesion and not a pulmonary tuberculosis. Harbitz²⁹ says puberty is a dangerous age. An infection contracted before that age is liable to become reactivated at that period in life due to the altered conditions in the life of the child. Altered conditions of work, overwork, lack of sunlight and fresh air, and insufficient sleep, all tend to accentuate the dangers at this period. Among girls, especially, this period is dangerous. Frolich⁵⁴ traced 2,200 children whom he had examined when they were seven years of age. Thirteen years later he found "many of the girls had died in late childhood or after puberty," from tuberculosis, both among those who had symptoms of activity at the first examination, and among those who only reacted to O. T.

The real difference between tuberculosis in infancy and in later life, according to Bartlett and Wollstein⁵⁵, lies in the fact that practically all lesions at autopsy in children under two years of age are acute. Fibrosis is unknown and calcification rare. Calmette⁵⁶ says that resistance on the part of the body to tuberculosis commences to manifest itself, beginning at the age of four years, in its disposition to form fibrous tissue and then to resist the spread of tubercles. "Scar tissue may appear early," states Ribadeau-Dumas⁵⁷, "but the signs of healing are more frequent in older children."

In four of the infants admitted to this sanatorium in the past two years, with a diagnosis of tuberculous broncho-pneumonia, we have seen apparent regression of the disease over a period of six or eight months, with later a spread of the disease and development of lesions in other parts of the body, most likely, as mentioned

earlier, due to hematogenous spread. Among the older children there are five who have been diagnosed as having pulmonary tuberculosis previous to admission, but who now show clinical evidence of a healed lesion, with X-ray findings suggestive of former activity. Three children with minimal lesions have been discharged from the sanatorium during the past year a quiescent; four, with more extensive involvement are still in the sanatorium, but showing satisfactory progress. Six children have died of tuberculosis in this sanatorium during the past year—five of advanced pulmonary tuberculosis and one of meningitis. Bacilli have been sought for in the faeces in all of the children with pulmonary findings, when repeated sputum examinations were negative. Where there has been an advanced parenchymal lesion with cavity formation, it has been possible to demonstrate bacilli in smears made from the faeces. Guinea pig inoculation of the faeces from children with a definite pulmonary involvement, but without demonstrable cavity, has also been done, and the bacilli found in the glands and organs of the pig at autopsy in two cases. So far we have not been able to demonstrate bacilli in the smears or by pig inoculation in the minimal pulmonary cases. Tubercle bacilli were also found in the spinal fluid of the one child with tuberculous meningitis.

The number of children referred to here is far too small to form a basis for any conclusions. Hutchison and Myers³³ in thirty-eight with minimal pulmonary involvement, report nineteen as improved and four as healed; three children with moderate lesions were improved. Of thirteen children with a far advanced lesion, one is improved, one is healed; in six the lesion has advanced and five are dead. That is, out of fifty-four cases with definite pulmonary tuberculosis the mortality was almost 10%. In connection with the prognosis, it is interesting to quote John Guy⁹ who says "non-pulmonary forms of tuberculosis contribute chiefly to the death rate." Laird⁵⁰ gives 10% dead, 60% well, 20% living, and 10% not traced, in the study he made upon the "Subsequent history of children discharged from a tuberculosis sanatorium." As stated in the first paper in this series, a follow-up study is now under way on the children discharged from this sanatorium, and it is hoped the results of this study can be published in the near future.

Healing occurs in the child, as in the adult, either by calcification of the tubercles, or walling off of the diseased tissue by a wall of fibrosis, with resulting contraction of the lesion. Resorption of the lesion may occur in the child, but is not so commonly seen as in the adult, since the lesions which disappear by resorption in the adult are of the exudative type, and where the exudative type of tuberculosis occurs in the child there is less likelihood of a cure. The most frequent mode of healing in the child is by fibrosis; therefore, bronchiectasis may be a sequel, and in this stage of the disease, as Riviere¹² says, it is often difficult to prove the tuberculous etiology of the lesion.

In differential diagnosis, several conditions must be considered. Whooping cough, acute bronchitis, chronic bronchitis, bronchiectasis, unresolved pneumonia, heart conditions and lung abscess are possibly the conditions most frequently simulated.

DIFFERENTIAL DIAGNOSIS

Lange⁵⁹ points out that the cough of pertussis is similar to the cough in tuberculosis, and often a diagnosis of tuberculosis is incorrectly made. Only when the symptoms point definitely to pertussis is the true diagnosis discovered.

The clinical findings in acute bronchitis are sometimes misleading in the child. Small amounts of mucous in the bronchi will produce rales which very closely simulate parenchymal rales of tuberculosis. In acute bronchitis, however, no shadow will be cast on the X-ray plate⁶⁰.

In the past two years three children have been admitted to the sanatorium suffering from asthma, who have been diagnosed as having pulmonary tuberculosis. These children all reacted to O. T., but the physical signs and the X-ray did not bear out the diagnosis of pulmonary tuberculosis. Allergic reactions were not carried out on these children so that no specific cause for the asthmatic attacks was found. In the interval between attacks physical examination failed to elicit rales in the chests of these children, though the tubular breathing, wheezing and prolonged expiration persisted.

Chronic bronchitis is especially frequent in children between two and three years of age, but is not common after the eighth or ninth year. It is a sequel to acute bronchitis, measles or whooping cough⁶¹. The X-ray plate may show fibrosis which persists over a long period of time.

Cavitation may occur, and bronchiectasis may follow this chronic bronchitis, as it sometimes follows pulmonary tuberculosis.

After an attack of measles or whooping cough, bronchiectasis may develop, as may pulmonary tuberculosis. The signs are frequently very similar to a basal tuberculosis and the differential diagnosis is difficult. The child may react to O. T. and the X-ray be very suggestive of tuberculosis. A history of prolonged spells of coughing with large amounts of fetid sputum (which, if allowed to stand separates into three distinct layers), and a sweetish odor to the breath may assist in making a diagnosis. Hemoptysis occurs in bronchiectasis as in pulmonary tuberculosis⁶¹. If the presence of an active tuberculous process can be ruled out, lipiodol may be used to outline the bronchi. The use of lipiodol, however, is far from harmless, and its use should be restricted to those children in whom every effort has first been made to rule out the presence of tuberculosis. In some children an attack of measles or whooping cough will be followed by a broncho-pneumonia, and this, in turn, have as its sequel bronchiectasis. The history in these cases is very suggestive of tuberculosis and considerable study may be necessary before the correct diagnosis is reached.

Lobar pneumonia, unresolved pneumonia, or broncho-pneumonia may be mistaken for tuberculosis. In lobar pneumonia the X-ray will show characteristic peripheral clearing. Broncho-pneumonia may leave lasting changes or consolidated areas with indefinite outlines. These shadows are most frequently seen at the bases of the lungs. The temperature elevation in these children is almost always higher than when tuberculosis is present. With tuberculous broncho-pneumonia the signs are very extensive, but the temperature and the leucocyte count are lower than in lobar pneumonia.

Congenital heart lesions and mitral valve lesions will often produce stasis in the lower parts of the lung which may closely simulate tuberculosis.

Lung abscess sometimes produces symptoms which lead one to suspect tuberculosis, but the temperature in an acute abscess is much higher than would be expected with tuberculosis, and very often there are few or no clinical findings. Here, again, the X-ray may be the deciding factor.

In the differential diagnosis of epituberculosis three conditions must be ruled out

—gelatinous pneumonia, chronic broncho-pneumonia and chronic fibroid phthisis.

Gelatinous pneumonia is the first stage of a cheesy pneumonia, and is almost always fatal, lasting from two to three months. The onset is stormy, sudden—temperature is elevated, tubercle bacilli may be found in the sputum, the leucocytes are increased, and the increase is chiefly in the polymorphonuclear cells. Tuberculous foci may be found in other parts of the lungs.

From chronic broncho-pneumonia, epituberculosis may be differentiated by the history, the course, the presence of numerous rales, and the less marked impairment of resonance over the diseased area.

In chronic fibroid phthisis, the X-ray shadow is less regular and homogenous than in epituberculosis.

Pierson⁶⁰ calls attention to the shadow produced on the X-ray plate by metastatic sarcoma in the lungs, and warns that there may be some difficulty in differentiating the shadows from those produced by tuberculosis.

TREATMENT

The treatment of pulmonary tuberculosis in the child does not differ materially from the treatment of the same condition in the adult, with this exception:—healing is much slower in the child and if a permanent result is to be expected the child must be closely followed over a number of years, especially until after the child has passed through the trial at puberty. The younger the child at the time of the development of manifest disease, the worse the prognosis. Happ, Wagner⁶², Gittings and Vaile⁶³ believe that fat in the diet has considerable influence upon the disease, both as a preventive, and to hinder the further development of the lesions. As in the adult, however, excessive fat in the diet is upsetting to the digestion and the intestinal tract of the child is much more easily upset than that of the adult. No treatment is of much value in pulmonary tuberculosis in the infant—the lesions are practically all acute, and death results frequently from a miliary spread or a meningitis.

The object of this paper is to stress the frequency of pulmonary lesions in the child and the necessity of the early diagnosis of these lesions. In the child, early diagnosis is of even greater importance than is the case with the adult; for, as has been shown, healing does not occur in the young child except under the most fav-

orable conditions, and when it does occur, a much longer time is required to cause the lesion to become quiescent. In older children, where fibrosis occurs, the same holds true and only small lesions are closed as a rule. In speaking of the results in pulmonary cases earlier in this paper, I referred to four children with moderately advanced lesions who were making satisfactory progress. Even with this satisfactory progress, sanatorium life will be the only safe life for these children for years to come, and the onset of puberty may, even under such living conditions, overthrow the work of years.

An earlier diagnosis is the best method which we have to control tuberculosis in the child. If we do diagnose the condition early, the prognosis in the older children is good, and in the younger child, much improved. More important still, by the early recognition of the disease in the family and the removal of the source of infection and the infected child, we protect the other children in that family from infection.

It may be said that the clinical signs of pulmonary tuberculosis in the child are indefinite and that a diagnosis is hard to make upon physical findings. All that is true, and only calls for closer study of the child. Suggestive findings are seldom lacking in these children, and further study, both clinically and by the roentgen-ray, will strengthen the diagnosis.

Here, again, as in the paper on tuberculous tracheo-bronchial adenitis, we reiterate the statement:—suspect tuberculosis in the child with a pulmonary lesion, and with that as a basis, admit the child to the sanatorium for further study and final diagnosis.

SUMMARY

In this paper an attempt has been made to bring out the differences in pulmonary tuberculosis as seen in the child and as seen in the adult. As has been shown, the location of the lesions in the child may be the same as in the adult, though basal lesions in the child are more commonly tuberculous in nature than they are in the adult. The frequency with which various parts of the lungs are involved does not differ materially in the child from the location in the adult, the apices being the most frequently involved.

The difficulty in diagnosing the early lesion in the child's chest has been stressed. Changes in the breath sounds, slight percussion changes, and the X-ray findings being the clinical signs upon

which the diagnosis often rests. When definite rales can be made out, the lesion is no longer an early lesion. In very young children the lack of co-operation on the part of the patient is a further handicap in the physical examination. In these very young children, auscultation can best be done early in the examination when the child, owing to the strangeness of the proceeding, may cry. As the child becomes accustomed to the examination the crying will cease. The forcible breathing during the crying acts very similarly to coughing and helps in hearing the rales. This forcible breathing however, obscures other signs which may be present, and therefore the examination should be continued after the child has ceased crying.

As in tuberculous tracheo-bronchial adenitis, a history of direct exposure to an open case of tuberculosis and the general physical condition of the child must be taken into consideration.

CONCLUSION

1. The frequency with which the various parts of the lungs may be involved does not differ materially in the child from that in the adult.

2. A thorough knowledge of the normal child's chest is essential.

3. Very slight changes in percussion must be accepted as indicating some pathologic change in the parenchyma underlying the percussed area.

4. Altered breath sounds are one of the earliest changes found in pulmonary tuberculosis in the child.

5. Changes in the child's chest occur so rapidly that the X-ray picture is seldom taken close to the time of the invasion of the lungs with tuberculosis, and in the majority of cases, with the exception of infants, fibrosis will already be indicated on the film and not the cause of fibrosis, the presence of the shadow shown being sufficient evidence that a lesion has been present.

6. In obscure cases, a history of an exposure to an open case of tuberculosis is of value.

7. The general physical condition of the child must be taken into consideration in the early cases.

8. The onset of puberty is especially dangerous to the girl with an active or quiescent pulmonary tuberculosis.

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THE CALCIUM OF CHEESE

A student of nutrition will find little difficulty in securing illustrations of the un wisdom of extreme generalizations in his science. The menace of the untutored person who assumes the role of a nutritional adviser often lies in his readiness, sometimes well intentioned, to make prescriptions of diet on "general principles." Thus one might read, early in the development of the modern vitamin hypothesis, that the newly recognized food factors are thermolabile and that accordingly "heat destroys all vitamins." Such unguarded statements threw consternation into the camp of the users of all sorts of fruits and vegetables that are conventionally preserved through the heat processes of canning. The only serious warrant for this generalization is the fact that the antiscorbutic property of foods, in particular, is peculiarly sensitive to heat in the presence of air and in an alkaline medium. The thermolability of other vitamins is admittedly far less marked.

The early offhand pronouncements, however, made a rule of the exception. Again, the wide differences in the iodine content of the same species of food plant or animal in different parts of our own country indicates the necessity of accurate information before food prescriptions are formulated from the standpoint of goiter prevention. Of late, much interest has centered in the adequate inclusion of calcium in the diet. This has been stimulated by Sherman's evidence that

not a small number of American dietaries appear to include the element in subminimal amounts. This is particularly true if we adopt the standard of 0.68 Gm. of calcium for an adult daily, and far more for the growing child. Milk is properly promoted as the most effective and abundant source of calcium; and milk products, notably cheese, have consequently also been lauded as acceptable calcium-yielding foods.

The approximate content of cheese in calcium is often quoted as 1 per cent—a noteworthy inclusion. The investigations of Blunt and Summer at the University of Chicago, however, furnish the basis for discriminating advice with respect to the use of cheese as a source of calcium. It is well known that there are two types of cheese, "sour milk" cheese, such as cottage cheese, and rennet cheeses, which include most others. The chemical reactions in the coagulation of milk by acid and by rennet are quite different. Analyses made by the Chicago investigators have correspondingly shown that the calcium content is not only higher absolutely in the rennet cheeses but higher in proportion to the protein. Swiss and cheddar types, for example, have fourteen and nine times as much calcium, respectively, as has cottage cheese. In the words of Blunt and Summer, the latter, therefore, unlike hard rennet cheese, must be regarded as a poor source of calcium, not a rich one, as usually considered.—*Jour. A. M. A.*, Nov. 24, 1928.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

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The successful diagnosis of pulmonary tuberculosis by a physician is possible only when he constantly bears in mind that tuberculosis is a very widespread disease, that it is insidious in its onset and presents a great variety of symptoms. It has been well said that the first and most important point in the diagnosis of tuberculosis is to know when to suspect it. Without a suspicion of tuberculosis, the disease will pass unrecognized into and advanced stage. Fortunately, the history, when well taken, will point the way.

Loss of weight, loss of strength, malaise, lack of endurance, nervous irritability, digestive disturbances, local or generalized sweating, frequent colds, menstrual disorders, pain throughout the chest, frequent clearing of the throat and hoarseness, as well as unexplained febrile temperature, cough and expectoration, and the spitting of blood are some of the symptoms calling for a careful chest examination. We must however, bear in mind that many of these symptoms may be lacking in active tuberculosis. Their absence offers no excuse for failure to make a careful study of the chest. The properly taken history will not only consider the above mentioned symptoms but will also bring out possible contact with open tuberculosis during childhood, or in later life. Many cases of bronchitis, so-called, in a parent or grandparent, are responsible for later tuberculosis in the child. Close association and repeated contacts during childhood are of especial importance. When the history has elicited suggestive symptoms, or close contact with open tuberculosis, careful search for signs of disease in the chest should be initiated.

The physical examination is carried on in a quiet, comfortably warm, well-lighted room. The patient is asked to bare the chest and sit in a comfortable, relaxed position with loose waistbands to permit of easy, natural breathing. We then proceed to elicit signs by the methods of inspection, palpation, percussion and auscultation. Inspection may reveal lagging or limited movement over an apex or upper lobe. Limited motion over the lower chest suggests fixation of the diaphragm or pleuritis. Palpation confirms the signs elicited by inspection and determines the amount of movement or limitation. It also tells us if there is any deviation of the trachea to the right or left, and the position of the heart apex. Percussion is valuable in detecting impairment of resonance over an apex or upper lobe. It also demonstrates the movement of the

diaphragm by change of note in deep inspiration and expiration. The finding of slight impairment of resonance over certain areas of the chest should not, however, be taken as conclusive evidence of underlying pathology. The rotation of the spine and overdeveloped or underdeveloped musculature may be misleading if not taken into consideration. It is, however, principally upon auscultation that we must depend for physical signs in early diagnosis. We may first note the type of breath sounds and whether the breathing be distant or exaggerated, then the transmission of the spoken or whispered voice and finally, and most important, we search for rales. In order to elicit rales we should ask the patient to breathe in through the mouth, then to breathe out and give a slight cough when almost out of breath, then to breathe in again. The rales of most importance in early diagnosis will be heard in showers during the inspiration following this cough. We should look for these rales especially over the apices, below the clavicles and in the upper interscapular spaces. When the rales are persistent and localized especially in an upper lobe, they are of greater weight in early diagnosis than any other physical sign. Let it be remembered, however, that showers of rales do, occasionally, occur following influenza, as a result of clearing pneumonic areas. Persistent localized rales when heard on several occasions over a period of several weeks are, however, almost as conclusive as the finding of tubercle bacilli in the sputum. If any doubt as to the condition exists after physical examination, we should turn to the X-ray for help.

The X-ray often reveals evidence of disease which a careful physical examination has failed to bring out. This can be true only when proper technic has been used. The examining physician should always

study the films himself, comparing them with his physical findings. He should especially look for evidence of lesions in the parenchyma of the lungs, fluoroscopic study is not sufficient. It gives a general idea of lung aeration and diaphragm movement but no X-ray findings can be considered complete without the study of films.

The sputum should be collected in sterile containers and sent to the state or other reliable laboratory. Many specimens may be necessary. One or two negatives mean nothing. A dozen specimens in twenty days may be necessary. Usually the early morning sample is best. Blood counts are so variable and often misleading that they may well be omitted in routine examination of the chest.

The temperature and pulse are worthy of especial study. An occasional temperature taken in the home or office is entirely unreliable. In suspected pulmonary tuberculosis, the patient's temperature should be taken for two weeks on waking in the morning, before lunch, at four and eight in the evening. The thermometer should be held under the tongue with the lips closed at least five minutes, never within a half hour after eating or drinking. A temperature of 99 degrees or more calls for an investigation as to the cause. The usual temperature in tuberculosis is low in the morning with an afternoon or evening rise. The pulse in the healthy person at rest should be normal. It is usually accelerated in tuberculosis.

Tuberculin tests are of little value in the diagnosis of tuberculosis in the adult and are best omitted except in certain obscure cases to be considered later.

Hyperthyroidism is often confused with early tuberculosis. It may be responsible for a slight febrile temperature, for nervousness, loss of weight, and rapid heart. The finding of a definite increase in the metabolic rate together with a negative X-ray and sputum should differentiate the conditions.

Bronchitis and bronchiectasis when associated with disease of the nasal accessory sinuses are often misleading. In case of repeated sputums, negative for tubercle bacilli, a careful study of the nasal accessory sinuses including an X-ray should be made.

OCCULT TUBERCULOSIS

We sometimes see patients with a symptomatology strongly suggestive of tuberculosis but in whom the physical signs are negative and the X-ray films do not show

parenchymatous infiltration. Such patients may exhibit malaise, weakness, a febrile afternoon temperature, a rapid heart, nervousness and perhaps loss of weight. In such cases the thyroid should be investigated and the metabolic rate determined. The nose, throat, teeth, sinuses, gall bladder, and pelvis should be studied for possible foci of infection. If these are negative and a strong reaction to tuberculin is elicited by a moderate intra-dermal dose, then we are justified in considering that a hidden tuberculous focus is responsible for the condition and should treat the case accordingly.

The early diagnosis of tuberculosis will be made more often, when the physician has learned to suspect this disease as a possible cause of illness among those presenting themselves for diagnosis, and when a well-taken history becomes a part of the routine examination of every patient.

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MULTIPLE BIRTHS OF MONSTERS

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This case record is reported because of the large number of monsters born to these parents who are each of a twin birth.

The father, Mr. E. H. of the offspring enumerated below is a man of good health and habits, normal physique and average intelligence.

His family history is that his grandmother gave birth to two pair of twins, male and female, his mother gave birth to two pair of twins, male and female, all living, and Mr. E. H. is the male of one set of twins. There is no history or occurrence of monsters in the families of his brother and sisters.

The mother, Mrs. A. H., has had good health until after the birth of the last child enumerated below, when she was sterilized. In 1927 she developed a mild hyperthyroidism metabolism 35 per cent cured by thyroidectomy. The Wassermann reaction of both parents and the last two monsters was reported negative.

Her family history is that her great grandmother gave birth to one pair of twins, male and female, the grandmother gave birth to two pair of twins, male and female; her mother was delivered of twins, Mrs. A. H. and her brother. The male twin who is alive and single.

The following is a record of births to parents who are each of twin birth:

Preg. 1—Sept. 27, 1910	Fetus 5½ mo.	Spina Bifida
Preg. 2—Oct. 2, 1911	Full term male	Living and normal
Preg. 3—May 10, 1914	Full term male	Living and normal
Preg. 4—Aug. 23, 1915	Full term female	Living and normal
Preg. 5—Sept. 22, 1916	Full term female	Spina bifida, died 2 mo. 22 days
Preg. 6—Feb. 22, 1918	Full term female	Living and normal
Preg. 7—Nov. 10, 1920	Full term stillborn	Spina bifida
Preg. 8—Feb. 6, 1923	Full term male	Living meningo-coele cervical and internal hydrocephalus.
Preg. 9—Mar. 27, 1924	Full term male	Still born anencephalic.

This last pregnancy was complicated by placenta previa and hemorrhage that nearly proved fatal to the mother.

THE VALUE OF CHOLECYSTOGRAPHY IN DIAGNOSIS

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Previous to the announcement of Graham and Cole in February, 1924, of a new method of examining the gall-bladder by means of the X-ray, the diagnosis of gall-bladder disease had not reached the high degree of efficiency for which Roentgenologists had been striving. Since Beck in 1900, showed the first gall-stone shadow, the interest of roentgenologist, internist and surgeon has become increasingly intensified. Cole, Case, Pfahler, George, Knox, Roberts and others later, through refinements in technic and improved equipment, demonstrated gall-stone shadows with increasing frequency. Later George and Leonard were able to recognize a shadow which they believed was cast by the diseased gall-bladder itself. Further work by George, Leonard, Burnham and Kirklin brought out so-called "indirect signs" of the existence of gall-bladder pathology. These indirect signs were many, but most workers agreed on gastric spasm, adhesions to duodenum and hepatic flexure, and pressure deformity of the duodenum and pyloric antrum. In spite of these advances in technic and observation, Carman said: "Previous to the advent of Graham's method, there has been nothing aside from the shadow of gall-stones, on which one could routinely base a positive roentgenologic diagnosis of cholecytic disease. A shadow of the gall-bladder itself by radiography without dye may or may not indicate a diseased condition. Secondary signs such as pressure deformity on gastric antrum, or duodenum, or deformity of the hepatic flexure, while seen occasionally in gall-bladder disease, are often present in normal cases."

Case, in 1926 in reviewing the relative values of cholecystography and the so-called direct methods of roentgenologic examination of the gall-bladder said, "Since my work with cholecystography, I have entirely abandoned any routine effort to identify on the films of a direct examination the shadow of the gall bladder." He states that such shadows are often due to stomach, duodenum or liver lobes, and that when the gall bladder is actually demonstrated on the film, it is not proof that the organ is pathological. This has been our experience, but we believe with him that the evidence often obtained by study of the gastro-intestinal tract, particularly the stomach and duodenum, cannot and should not be dispensed with.

Clinically the diagnosis of gall-bladder disease is seldom easy. It is often simu-

lated by other conditions, cardiac disease, spastic constipation and retrocecal appendix being only a few of these. Then, too, it is often associated with other conditions, notably duodenal and gastric ulcer, and chronic appendicitis, which may entirely mask its symptoms. Angina and pylorospasm are to be differentiated, and it is well to remember that these conditions are sometimes associated with gall-bladder symptoms and pathology. Time does not permit elaboration of this phase of the problem.

Cholecystography was introduced by Graham, Cole and Copher in February, 1924. Their first published reports were the intravenous injection of tetrabromphenolphthalin. A little later this was abandoned due to certain toxic reactions and tetraiodo substituted on account of greater atomic weight and lessened toxicity. Menees and Robinson in 1925 reported results with the oral administration of the drug. Since that time the oral method has come increasingly into use, and is employed by most workers in this country today. It has been proven reliable by numerous observers and in our hands, and is the simplest and most natural mode of administration. It is an office procedure, never in any way endangering the patient or requiring hospitalization, in fact, seldom preventing the patient from going about his regular daily affairs. The capsule method of administering the drug was abandoned by us about eight months ago, the dye now being given in an emulsion form taken at one dose in a glass of grape juice, giving the freshly precipitated acid salt of the dye which is a form readily absorbed by the intestines. This makes a palatable drink, to which few patients object.

The purpose of intravenous and oral methods is the same:—To introduce the dye into the blood stream from which it is excreted by the liver into the bile and concentrated by the gall bladder to a sufficient

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density to render it opaque to the X-ray so as to cast a shadow on the films. It is a test of the function of the gall bladder. This function, so far as we know, is to concentrate and store the bile in fasting, and to discharge the bile into the intestine during digestion. We wish to emphasize that the bile must not only enter the gall bladder, but must be concentrated by absorption of the watery content, so as to increase its density sufficiently to cast a shadow. In addition to demonstrating the size, shape, contour and position of the gall bladder, this test often reveals non-opaque stones as negative density shadows, adhesions, non-appearance of shadow, impaired concentrating and emptying function, and anomalies and often aids in differentiating kidney stones and other calcifications in the upper right quadrant.

Technical work must be of the highest order, and various interpretative pitfalls avoided. Films must be of the best diagnostic detail and painstaking care exercised. The gall bladder shadow may be found anywhere from the tenth rib to the pelvis, and from the lateral abdominal wall to the mid-line and over-shadowed by the spine. Rotation of the patient to avoid gas and other intestinal shadows, and to avoid the spine shadow, is often necessary, sometimes converting an apparent no-shadow case to a normal. Gas in the intestine may be mistaken for negative stone shadows. Calcified costal cartilages, calcified glands, kidney stones, calcified tip of the 12th rib, articulated transverse process of lumbar vertebra must be differentiated from positive stone shadows, also moles on the skin, artefacts on the films, and calcifications in the liver. Coincidence of the shadow with a broad rib, or with the ilium or spine may destroy the contrast of a good shadow. Time must be spent in educating the patient to suspend respiration, as the slightest motion may render the shadow obscure, or destroy it entirely. Over-lapping of the lower pole of the kidney, and the lower border of the liver sometimes makes a confusing shadow resembling a gall bladder. A coil of small intestine, the curve of the duodenum, and sometimes the antrum of the stomach simulate faint gall-bladder shadows. Let us again emphasize that cholecystography must be careful, painstaking and often time-consuming if good results are to be obtained, and interpretations relied upon. A careless or too hurried examination is of little value, and should in no case be given

credence. When there is doubt, a repeat examination should be made.

Our experience has been with the oral method entirely. We give the dye in one dose at 8 p. m. the evening before the examination, the patient abstaining from food thereafter. At 10 a. m. the first films are made, and the patient is again seen at 1 p. m., still fasting. If a gall bladder shadow is obtained, the patient is then instructed to take a meal consisting of eggs, milk and cream, and buttered toast, and to report for another examination two hours after eating. The normal response to the test is a shadow of good density at 10 a. m., usually smaller and more dense at 1 p. m., and more than half empty two hours after the fat meal. The patient is always questioned as to any reaction following ingestion of the dye, and if vomiting has taken place and no shadow appears, the examination is repeated. This has been necessary in very few instances. Vomiting is rare, and when it has occurred, it has usually not interfered with obtaining a shadow. Out of 741 examinations less than 4 per cent have vomited, 10 per cent have had diarrhea of varying degrees, and 70 per cent have had no reaction of any kind. We have come to disregard almost entirely the factor of reaction.

Interpretation is based on analysis of the function of the gall bladder as shown by the test. Chiefly, this is the ability of the gall bladder to concentrate the bile, and to discharge the bile after ingestion of food. A normal response implies a functioning liver, patent hepatic and cystic ducts, concentrating ability of the gall bladder mucosa, a normal restraining mechanism at the duodenal opening of the common duct, and a resilient gall bladder wall. Normal function implies a normal organ, but is seen occasionally in the presence of disease. We have had four cases in the last 100 operated upon, which gave normal response, but showed cholecystitis at operation. We also see good concentrating and emptying function with stones present. However, this is the exception, and not the rule.

Our most reliable sign of pathology other than demonstration of stones has been the absence of shadow. This is usually due to a functionless mucosa, blockage of the cystic duct, packing of the gall-bladder with stones, or fibrotic contracted gall-bladder. It is well to remember, however, that severe liver pathology may prevent excretion of the dye in the bile, or mechanical factors such as adhesions, extrinsic tumor, or temporary oedema of the duct

may prevent the bile from entering the gall bladder. The frequent occurrence of adhesions without any disturbance of the gall bladder shadow proves, however, that this factor seldom plays a part. Obstruction at the pylorus in oral administration is an occasional cause for non-appearance of the shadow, and this is one reason we recommend that all cases have a barium meal study of the stomach and duodenum at least. Lockwood and Skinner found that achlorhydria and excess free H. C. L. had no bearing on the result in their series. When we were using the capsule method for administration of the dye, the failure of the capsules occasionally to properly disintegrate in the intestines had to be considered. Since using the freshly precipitated acid salt of the dye in grape juice, we have not had that factor to contend with, and our shadows have been uniformly better when present, and we have felt more secure in diagnosing "no-shadow" when the gall-bladder shadow did not appear.

Cases showing very poor shadow have been as reliable an index of pathology as the no-shadow cases. The same possibilities of error here also must be kept in mind, such as possibilities of technical faults or failure on the part of the patient to follow directions.

In the faint shadows our greatest possibility of error exists. Here the personal equation enters into the interpretation. Experience and checking of surgical findings will prove valuable in minimizing mistakes in this class. The fat meal test is also of great value here. We have had many cases showing good concentrating function and poor emptying after the fat meal, which have been proven pathological by operative and pathological findings, and we believe that emptying function after a fat meal is a reliable sign of the condition of the gall bladder.

We believe with Kirklin and Watkins and Mills that normal gall bladder function can exist in the presence of cholecystitis, even with stones and adhesions. Our experience has led us to this conclusion in four cases, as mentioned above.

We wish to call attention to the fact that in several of our operated cases which had a definitely positive Graham test, the gall-bladder appeared normal and was normal to palpation, but when reluctantly opened was found to be the site of marked cholecystitis, and in several instances small stones were present, which could not be detected by the examining hand. A gall

bladder cannot be pronounced normal on inspection alone. Graham believes that cholecystography is more accurate than inspection and palpation at operation. His conclusions are based on the use of the intravenous method entirely.

Doubtful cases should be checked by a second examination, although our experience has been that the second examination seldom gave a different reading from the first. X-ray findings should always be considered in collaboration with the clinical findings. Close co-operation of surgeon, internist and roentgenologist are essential. Lockwood and Skinner made electro-cardiograms on 367 cases showing cholecystographic evidence of gall-bladder disease, and 71 per cent of these showed evidence of myo-cardial changes. There were three operative deaths in this series. They also saw several cases in which cholecystography helped to differentiate angina pectoris from gall bladder disease.

CONCLUSIONS

1. We believe the oral method is a reliable means of performing cholecystography.
2. Cholecystography is an improvement over the older method of X-raying the gall bladder. It is not simple. It is not infallible, and should not be done to the exclusion of the barium meal methods, but in conjunction with it.
3. Normal findings may occur in pathologic cases.
4. Cases showing positive tests and coming to operation should have the gall bladder opened before X-ray findings are discredited.
5. X-ray findings and clinical findings, should be taken into consideration together in all cases.
6. Close co-operation of internist, surgeon and roentgenologist, and pathologist is urgently recommended.

TABLE NO. 1

Last 100 cases operated upon:	
Normal diagnosis confirmed	17
Pathological diagnosis confirmed	78
Normal diagnosis not confirmed	3*
Pathological diagnosis not confirmed	2†
Percentage of accuracy of X-ray findings.....	95
*One had no pathological report.	
†One of these not opened.	

TABLE NO. 2

Last 100 cases operated upon which showed disease of the gall-bladder:	
X-ray findings pathological	96
X-ray findings normal	4
Positive stone shadows	14
Negative stone shadows	13
Stones found at operation not seen by X-ray.....	21
Failure of gall-bladder to visualize	39
Poor shadow	44
Poor emptying after fat meal	28
Pathological reports on	65
% of accuracy for cholecystography	96

TABLE NO. 3

Last 300 cholecystographies:	
Operated upon	62
Diagnosed normal	14
Confirmed normal	13
Diagnosed pathological	48
Confirmed pathological	47
Errors	2
Non-appearance of gall-bladder shadow in operated cases	17
Impaired function	28
Negative stone shadows	7
Positive stone shadows	7
% of accuracy of X-ray findings	96.8

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QUADRUPED LOCOMOTION (TETRAPODISIS*) AMONG HUMAN CHILDREN

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Despite the apparent novelty of quadruped locomotion among children, as attested by the recent nation-wide interest to the three articles by Ales Hrdlicka^{1,2,3}, there are huge populations of modern children who naturally and spontaneously employ this mode of locomotion. In fact, if the American children are given the same opportunity to realize this natural tendency as those of many foreign countries in which it is common, it is highly probable, so the author feels, that American children also would walk in this manner and there would have been no such surprised comment upon the ever-increasing number of examples now being brought to the fore.

EXAMPLES IN MODERN TIMES

In fact, the author knew of no other form of early childhood locomotion, until with much surprise he saw these reports.

In Cyprus, the author's native land, much importance is attached to the date associated with the first tetrapodisis, because of a belief that the earlier that date, the stronger and the more robust the child.

The connotation of the local word (arc(t)oudizo) means "walk like a bear" (literally translated means "imitate the bear"). The use of such a word in a country in which there are no bears implies that either the word has been imported, or has been on the tongue of the folk from a time when there were bears on the island. In the absence of any evidence that bears ever lived on the island, which otherwise would be discoverable since Cyprus has been densely populated since prehistoric times, it may be concluded that the word was imported, supposedly from a land of Greek speech, and

if so, tetrapodisis ought to be common among all Greek children.

In the author's effort to establish the validity of his assumption that all Greek children at one time naturally walked on all fours, he questioned Greeks from different parts of Greece proper and from foreign parts, only and always to learn that this was the common mode of early childhood locomotion. They are always quick to add, however, without being questioned, that "some frail children creep instead because their limbs are unable to support their body in the more usual manner". Thus in this casual manner of investigation the author reached the conclusion that for the Greeks, at least, tetrapodisis is the rule, certainly not the exception.

In the belief that no little significance is contained in the similes current, it may be well to digress here to comment on the different comparisons used to indicate observation of the same phenomenon. "Walk like a bear" is readily understood by all Greeks. "Walk like a cat" is the local figure of speech in some places and "walk like a donkey" in others. In most parts of Greece proper a word probably foreign "pousoulao" is employed, the origin

* (Tetrapodisis from the verb tetrapodizein, which means walk on four feet, derived from the adjective tetrapous, which means four-footed, quadruped.)

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of which the author has been unable to trace. Therefore no translation is offered. (The nearest guess is *pous*—foot and *elao* or *elauno*—set in motion, proceed). In other words, where the word “walk like a bear” is not current in a given Greek community, another comparison with a different four-footed animal is in use.

To exclude the possibility of this being a peculiarity of Greek children, the author questioned Syrians, Bulgarians, Serbians, Roumanians, Poles and Russians of the laboring classes. In each case he showed them the typical pictures, published in the American Journal of Physical Anthropology, and was not surprised to find that this was considered to be the usual mode of locomotion just before walking upright. A Russian mother, herself the mother of three children who have used this mode of walking, told the author that even in Detroit about 50 per cent of all the children born to Russian parents known to her, had walked on all fours. People of other nationalities have not yet been questioned.

EXAMPLES FROM ANCIENT TIMES

From the literature, it is evident that this form of locomotion was not considered unnatural or curious among ancient Greeks or the scholars of all nationalities who have made a study of ancient Greek literature, for we find frequent references to the child's quadruped progression described in unambiguous language. Yet no scholar of any epoch or country has, to the author's knowledge, observed anything strange about it.

Everyone conversant with Greek mythology and the Greek drama, is familiar with the famous riddle, “The Enigma of Man”, propounded by the Sphinx of Thebes, and its solution by Oedipous. The enigma runs as follows:

“There is a thing on earth two-footed, and *four-footed*, and three-footed, whose name is one, and it changes its nature alone of all creatures that move on the earth or in the air and sea. But when it *moves supported on most feet*, the swiftness of its legs is at its weakest.” (4).

Oedipous' solution of the riddle according to an unknown poet is:

“However much against thy will, hear from me, ill-winged (ill-omened) muse of the dead, the end of thy wrongdoing; Man it is thou didst describe, who while living on earth, *is made by nature four-footed at first* when a helpless babe from his mother's womb. But when he is aged bowed down by advance-years, he leans

upon a staff, a third foot, resting thereon the weight of his trunk”. (4).

That the unknown author of the above enigma and its solution considered tetrapodis a natural way of locomotion is obvious from his use of the word “tetrapous” (four-footed) and the expression “it moves supported on most feet”. Likewise the expression “is made by nature four-footed at first when a helpless babe” in the solution, points in the same direction.

If tetrapodis is such a strange mode of locomotion, how does it happen that modern scholars in mentioning this riddle and solution nowhere comment on the unusualness of this mode of locomotion? The author has examined all accessible literature on the subject in English, German and French, and found none.

John Malcolm Mitchell, an English scholar, under the word “Sphinx” in the Encyclopedia Britannica puts the same thus: “What is that which is four-footed, three-footed and two-footed?” And he gives the answer as follows: “The child crawls on *hands and feet*, the adult walks upright and the old man supports his steps with a stick”. (5).

Tetrapodis is brought out more clearly by Aristotle, who observes that “man is the only one of all animals that does not move in the same way when infant and when adult, for at first when a child he *moves like a four-footed animal*”. (6).

CAUSES OF TETRAPODISIS

Thus it is evident that progression on all fours or tetrapodis is neither a new observation nor an exception at all, but a natural condition. What then are the causes of it, or what causes the observers of today to consider it an exception?

Aristotle thinks that the cause of tetrapodis is identical with that of quadruped progression in animals, namely, the disproportion between the upper part of the body and the lower. He calls that portion of the body from the anus to the head the upper part and from the anus to the ground, the lower. Because the upper part of the body, owing to this disproportion, “is forced to incline toward the earth, nature in the interest of security placed the front feet under four-footed animals instead of arms and hands”. (7). He calls this disproportion dwarfishness or dwarfish stature and observes that “all children are dwarfs” being much more so in the very beginning of their lives, “with the result that they do not even creep, but are motionless”. (7). In contrast, however,

with other animals "as they grow older the lower members of the body grow more rapidly until they attain the requisite size. Then only do children walk upright" (8). In one of Hrdlicka's reports, case No. 23 (3) a dwarfish condition is clearly indicated. It is stated that the child "has rather short legs and can put the entire palm of his hand to the floor without bending his knees". This same case brings out another point, namely, that the child in walking on all fours does not have to bend the knees. Aristotle probably thought this to be very common, for he observes: "however movement is possible, though the leg has no flexure, in the same way that children creep" (9). ("Creep" here indicates "slow movement", not "ordinary" crawling).

In trying to walk erect, the child finds its small weak legs unable to bear the load of the disproportionately heavier trunk and in falling finds itself on all four limbs. Its next move would be to stand up and walk again toward its object or proceed on all fours. Inasmuch as children in modern life are reared in homes divided into small rooms that restrict the child's activity, and the rooms are crowded with all kinds of furniture in which the child is offered many objects of support, not to mention the many kinds of "kiddy cars" and perambulators, the ordinary creeping instead of preceding tetrapodisis, immediately precedes that of upright locomotion. To all these no small part is played by the modern mother, for the children are never left alone and never have to go a long distance unaided and unobserved. If a child obliged to go to a considerable distance once found itself on all fours with no piece of furniture conveniently near, it would try to move forward in this very stable position "especially when in a hurry" as in Hrdlicka's case No. 3 (1), or would combine both modes of locomotion as is beautifully shown in Hrdlicka's case No. 22 (3), about which the correspondent comments: "occasionally, particularly after a fall, he will run a short distance on all fours, but almost immediately stands up and walks erect".

The surprise displayed in America over this seemingly strange report was to be expected. In the first place the reports reached, in large measure at least, only the educated classes, i.e., the urban population. Secondly, the American country people have departed from the more simple way of living and with their labor saving devices and luxury of life, bear a

closer resemblance to the city people than to their brothers, the peasants of the old world. Still, in studying Dr. Hrdlicka's cases, we observe that in almost all cases of white children the opportunity of natural action afforded the child by the outdoors is clearly shown, although no particular attention is drawn to this fact. Hrdlicka himself remarks about case No. 2 (1) that the mother is a "young woman, evidently a poorer country woman or mountaineer". The picture of case No. 7 (2) shows an open space, that of case No. 12 (3) was taken "on the lawn". The child of case No. 14 (3) "likes to climb trees", while that of case No. 16 (3) "once in running on all fours he picked an apple with his teeth". The picture of case No. 17 (3) shows the child running outdoors. About the child of case No. 25 the correspondent comments that "it travels as much as a quarter of a mile on all fours". The child in case No. 31 (3) "has gone up small trees and posts ever since she was a child" while a picture shows her running on all fours against a background suggesting a little forest rather than a garden. The child in case No. 37 (3) "could travel across the floor or on the lawn on a run". The correspondent reporting about No. 38-40 (3) states that "when she was about fifteen months old we went to the seashore, and it is my impression it was after we went there that she began sometimes to get up on her hands and feet" and that a snapshot shows case No. 40 "going on the grass". In several of these cases no data relative to that question are given, but in two instances (cases No. 34 and No. 41) (3) it is suspected that the children lead a rather indoor life, or at least practiced tetrapodisis indoors.

A correspondent stated regarding cases No. 17-18 (3): "When I made comments on the subject others told me of knowing children who used that method of locomotion. Perhaps it is not so rare". The author finds this remark of interest as it is the only instance of expressed doubt about the strangeness of this observation.

COMMENTS

Quadruped locomotion in children is not rare.

From Greek literature we get the impression that this was considered the only natural way of progression among young children.

It is considered natural by all modern Greeks.

It is at least very common, if not gen-

eral, among the nationalities of southeastern Europe and those of the Near East.

The practice of it in the cities and modern homes is hindered because the movements of young children are very much restricted.

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MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

INFLUENZA

Influenza is not a reportable disease in Michigan except in time of epidemics.

Last November the reports indicated that this disease was becoming epidemic on the Pacific Coast and it soon became apparent that it was moving eastward and on December 16 Dr. Guy L Kiefer, state

physicians did not report cases because they were atypical of the influenza epidemic of 1918.

The true measure of the disease is found in the number of deaths and while December represents only the beginning of the epidemic, these figures are now ready for study.

As in previous epidemics of influenza we find that many deaths are stated pneumonia or bronchopneumonia without reference to influenza so it is necessary to consider all deaths due to these causes.

We have therefore taken the deaths due to influenza, acute bronchitis, chronic bronchitis, bronchopneumonia, lobar pneumonia and pneumonia unqualified for the last three months of 1925, 1926, 1927 and 1928, with the following results:

Total deaths from causes above sated for
October, November and December

1925.....	1,172
1926.....	1,139
1927.....	1,006
1928.....	2,079

This shows that the number of deaths from this group in 1928 were 88 per cent higher than the average for the three preceding years.

By whatever name it may be called there can be no doubt that *something* caused an unduly high fatality in the last quarter of 1928.

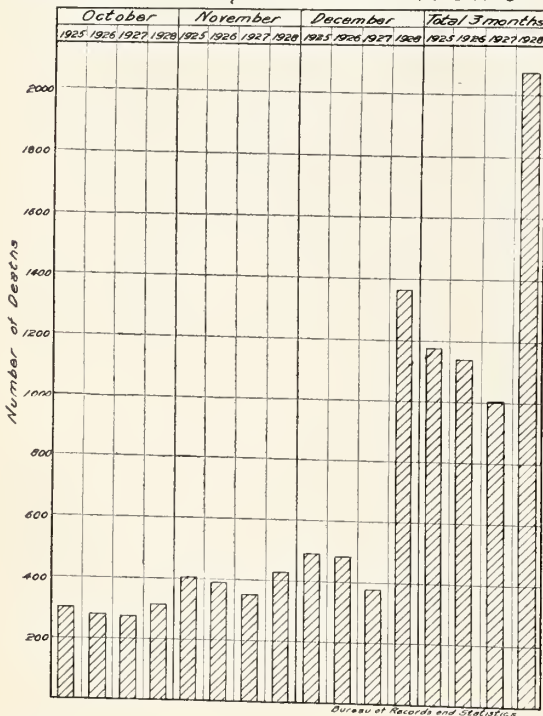
The illustration depicts the result.

THE YEAR 1928

That 1928 was a favorable year from the standpoint of health is indicated by the death rate. Although slightly higher than 1927, when the state enjoyed the lowest death rate in its history, it is below 1926 and only a shade above 1925. The rate was 11.9, this in spite of the fact that December showed an increased number of deaths due to the unusual prevalence of infections of the upper respiratory tract.

MICHIGAN DEPARTMENT OF HEALTH
Guy L. Kiefer M.D. Commissioner

Comparison of the number of Deaths from Influenza and Pneumonia for the last quarter of 1925-6-7 and 1928



The rates for the past five years are as follows:

1924.....	12.2
1925.....	11.8
1926.....	12.7
1927.....	11.5
1928.....	11.9

These rates are based on the number of deaths per 1,000 of estimated population and it is true that all rates will be subject to later correction based on corrected population figures. I think that the state has fared exceedingly well.

The birth rate, however, is not so good. This again shows a decrease from the preceding year and the lowest rate probably in the history of the state. The rates for the past five years are:

1924.....	25.2
1925.....	23.6
1926.....	23.0
1927.....	22.7
1928.....	21.2

This falling birth rate is by no means peculiar to Michigan but seems to be common throughout the world. Many theories for this have been advanced, among them being that of the increasing industrialization of women and the exceedingly high cost of being born. It is probable that the true reason is purely a sociological one and any explanation is bound to be largely speculative.

A prenatal nursing program was started in Ingham County March 4, 1929. Miss Martha I. Giltner, R. N., who for several years has been instructor in child care classes for the State Department of Health has been selected as the nurse for this program.

Miss Giltner will work directly under the local physicians of Ingham County, though the work is financed by the Department of Health. Headquarters for the nurse will be at Mason.

Miss Nell Lemmer, R. N., of Kalamazoo, joined the nursing staff of the State Department of Health in February as instructor of child care classes. Miss Lemmer was at one time on the staff of the Kalamazoo Department of Health and later served as Ottawa County nurse. The classes at present are being conducted in Newaygo County.

VISITS OF ENGINEERS DURING MONTHS OF JANUARY AND FEBRUARY, 1929

Inspections of Railroad Water Supplies:
Total 38.

Bad Axe	Hartford (2)
Baldwin	Holland
Bay City	Kalamazoo (3)
Caro	Lansing (4)
Caseville	Mackinaw City (2)
Cass City	Marshall
Cheboygan	Monroe
Detroit	New Buffalo (2)
Durand	Owosso
East Tawas	Pontiac
Edmore	Port Huron
Frankfort	Saginaw (3)
Grand Ledge	Urania
Grayling	Vassar

Inspections and Conferences, Sewerage and Sewage Disposal: Total 30.

Alma	Lapeer
Battle Creek	Montrose
Birmingham	Muskegon
Bessemer	Okemos
Detroit	Paw Paw Lake
East Lansing	Pontiac
Grand Rapids (3)	Port Huron (2)
Ithaca (4)	St. Joseph
Jackson (2)	St. Louis
Lansing (5)	

Inspections and Conference, Swimming Pools: Total 12.

Dearborn	Lansing
Detroit (4)	Port Huron
East Lansing	Royal Oak
Grosse Pointe (2)	Owosso

Inspections and Conferences, Water Supplies: Total 40.

Benton Harbor (6)	Lansing (2)
Berkley (2)	Lapeer
Caro (5)	Mt. Clemens
Dearborn	Pinckney
Detroit (6)	Plymouth (2)
Flat Rock	South Haven (2)
Grosse Pointe	St. Clair (2)
Highland Park (4)	Wayne County (2)
Ionia	

Inspections and Conferences, Stream Pollution: Total 14.

East Lansing (4)	Lansing (3)
Kalamazoo (4)	Pontiac (3)

Inspections and Conferences, Miscellaneous: Total 2.

Chicago, Lake Levels Controversy.
Memphis, School Ventilation.

Survey of School Wells:

Clinton County, 39 school well supplies were examined and samples taken for analysis in our laboratory.

Instructions have been given to the County Nurses in Livingston, Berrien, Washtenaw and McComb Counties for collecting the samples in those counties.

PREVALENCE OF DISEASE				
	February Report Cases Reported			
	January 1929	February 1929	February 1928	Av. 5 yrs.
Pneumonia	1,752	1,074	798	705
Tuberculosis	361	403	538	421
Typhoid Fever	16	11	31	32
Diphtheria	430	320	300	419
Whooping Cough	628	904	655	635
Scarlet Fever	1,243	1,451	1,283	1,479
Measles	531	1,408	2,580	2,876
Smallpox	104	144	135	192
Meningitis	87	98	15	12
Poliomyelitis	4	3	5	4
Syphilis	1,536	971	1,222	1,150
Gonorrhea	927	385	586	816
Chancroid	8	1	11	11

CONDENSED MONTHLY REPORT				
Michigan Department of Health Laboratories				
	+	—	+—	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				1074
Diagnosis	25	317		
Release		91	266	
Carrier	25	341		
Virulence Tests	7	2		
Throat Swabs for Hemolytic Streptococci				574
Diagnosis	126	82		
Carrier	50	316		
Throat Swabs for Vincent's	91	266		342
Syphilis				7977
Kahn	1351	6540	79	
Wassermann	2	1		
Darkfield	1	3		
Examination for Gonococci	133	1470		1603
B. Tuberculosis				565
Sputum	63	459		
Animal Inoculations	3	40		
Typhoid				71
Feces	4	21		
Blood Cultures		12		
Widals	2	26		
Urine		6		
B. Abortus		20		20

Dysentery	21	21
Intestinal Parsites		23
Transudates and Exudates		255
Blood Examinations (not classified)		163
Urine Examinations (not classified)		303
Water and Sewage Examinations		453
Milk Examinations		102
Autogenous Vaccines		2
Supplementary Examinations		148
Unclassified Examinations		749
Total for the Month		14445
Cumulative Total (fiscal year)		116958
Decrease over this month last year		357
Houghton Laboratory—		
Examinations made — Total for the month		1379
Cumulative total (fiscal year)		11690
Decrease over this month last year		1326
Grand Rapids Laboratory—		
Examinations made — Total for the month		7110
Cumulative total (fiscal year)		51935
Increase over this month last year		424
Typhoid Vaccine Distributed, c. c.		270
Diphtheria Antitoxin Distributed, units		32262000
Diphtheria Toxin Antitoxin Distributed, c. c.		22100
Silver Nitrate Ampules Distributed		6252
Scarlet Fever Antitoxin Distributed, pkg.		145
Scarlet Fever Toxin Dick Test Distributed, c. c.		2230
Scarlet Fever Toxin Immunization Distributed		4089
Smallpox Vaccine Distributed, points		14540
Bacteriophage Distributed, c.c.		2726

THE COUNTRY DOCTOR

Devotion to duty with but slight reward is a favorite theme of poets. The medical profession continues to show examples of it. A tale comes from Kewaunee, Wis., which will remind some of those who read Balzac of the sacrifices made by "The Country Doctor." The hero of this story is Dr. W. M. Wochos.

The countryside was snowbound and had been for days when a telephone call came from a farm nine miles away. A baby was to be born. The doctor started out immediately in his ski-shod motor car, but after three miles bucking the drifts he abandoned the car and won through the snow to a farmhouse from which he telephoned

instructions. On a snow-plow the doctor then made three miles more, but when the plow broke down he took to his feet again, and after several hours of hardship covered the three miles—and found mother and child doing well.

Whoever has lived in the country knows at least one such example as this of medical heroism. Country doctors rarely grow rich, and if they do it is not from fees gathered at lonely farmhouses miles away in the snow. But having dedicated themselves to the care of humanity they usually go through with all the difficult phases of it, content to know that they are keeping the faith and that they have the affection and respect of their neighbors.—New York Times.

HYPERVENTILATION OF LUNGS AS PROPHYLACTIC MEASURE FOR PNEUMONIA

Yandell Henderson and Howard W. Haggard, New Haven, Conn., report that hyperventilation of the lungs by deep breathing under inhalation of carbon dioxide in proper dilution has proved effective in the prevention of postoperative pneumonia. It is effective also in the prevention of the pneumonia that may follow carbon monoxide asphyxia in untreated cases. After anesthesia and asphyxia alike, respiration tends to be depressed. During this peirod of shallow breathing, parts of the lungs may remain unventilated and thus become atelectatic. Pneumonia may develop in these areas unless special measures are taken for their

reinflation. The distention of these unventilated and collapsed areas by the deep breathing which inhalation of carbon dioxide produces counteracts the atelectasis and prevents the development of pneumonia. In view of the effectiveness of inhalation of carbon dioxide in the prevention of postoperative and postasphyxial pneumonia, the possible value of inhalation of 5 per cent carbon dioxide in oxygen as a prophylaxis for the atelectasis that occurs early in pneumonia of other origins seems to deserve both experimental and clinical study.—Journal A. M. A.

THE JOURNAL

OF THE

Michigan State Medical Society

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APRIL, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

TUBERCULOSIS EARLY DISCOVERY, EARLY RECOVERY

Tuberculosis activities in the state of Michigan have progressed in leaps and bounds in the past twelve months. This is particularly gratifying inasmuch as the previous backward state of affairs has been finally recognized and remedies instigated and in places completed. To glory in and rest on these achievements however, would be dangerous for though the bed situation has improved in some parts of our state to the so-called standard of the National Tuberculosis Association, other parts are still struggling in that direction with definite signs of success only here and there. There are many sparsely populated counties up state which have little immediate prospect of building or procuring beds reasonably near "home." It would

be a particularly worthy gesture by the state to build a sanatorium there, centrally located, and charge the individual counties their due proportion according to population, later turning it over entirely to them for maintenance in accordance with the tuberculosis act.

Spreading of the disease takes place in proportion to length and degree of exposure. A sufficient number of beds, particularly for open cases, would result in removal followed by education of the "source" of infection. Then only could we go into production in carrying out this year's slogan of the National Tuberculosis Association, namely, "Early discovery, early recovery." With the present trend of our civilization unfortunately, in spite of our high economic superiority to the rest of the world or perhaps because of it, the regular and careful habits for cure generally speaking can best be procured in an institution.

The tuberculosis death rate in the five-year age period, 15 to 19 for males is practically stationary, while in females the rate has increased so that now it is double that of males. Careful examination and continued observation where necessary of the graduates of all grammar and high schools especially girls is indicated. The line of education for this age group is suitably described by Lillian, a patient of the Detroit Tuberculosis and Health Society—"I have learned that it does not pay to skimp on food, to keep late hours, to breathe stale air or neglect a cold. I have learned, almost at the expense of my own life, the value of a good night's rest, plenty of fresh air, warm nourishing food, and regular daily exercise in the open. Without these things, no girl can keep her health long."

Until recently, the failure of early discovery has been blamed chiefly on physicians. Now, however, it is becoming more generally recognized by the lay public, that in order for the physician to discover tuberculosis early, it is advisable for patients to present themselves for examination at the very onset of symptoms. Free use of X-ray and sputum examination is necessary. Tuberculosis stands out among organic diseases as being readily influenced by mental attitude. Almost any form of treatment results in a temporary improvement of the patient. This curious psychologic fact makes the tuberculosis patient a pitifully easy victim of those who advertise or practice worthless or fraudulent "cures". In a large number of cases, too,

there is a natural tendency to quiescence and temporary arrest of the disease, causing concealment of the pathological process. In quackery, education of the public is a slow process and occasionally of doubtful value in the long run unless associated with rather than substituted for active prosecution of quacks. One cannot but agree with P. T. Barnum in that "there is a sucker born every minute". It should be added, however, that "there is a crook born every hour to look after the sixty suckers".—D. S. Brachman.

HOSPITAL STAFF MEETINGS

From time to time criticism has been made of the nature of the hospital staff programs. Among these criticisms is one to the effect that the program quite frequently consists of a paper or papers of an academic nature read by some member of the staff or by some person not connected with it. This of course is usurping the role of the county society or other organizations which exist under such names as academy of medicine, medical club or of organizations devoted to particular specialties. In fact, the paper which is more or less didactic and discussed by the members is essentially a feature of the medical meeting which is held apart from the hospital. The very reason for staff meetings consists in the necessity of dealing with matters which are peculiar and intimate so far as the particular hospital is concerned, such as the discussion of specific cases, the checking-up with post-mortem findings, or in case of recovery, with laboratory or other data in which the staff can indulge with the frankness of members of a family. Of course there are other matters that come within the scope of meetings of the staff; their significant character always that they are of immediate interest to the members and of remote interest, if any, to those not connected with the hospital.

The effectiveness of medicine depends to a great extent upon organization and co-operation among the various units, the county society, in immediate touch with the profession, the state society next and the American Medical Association final. It is by attendance at county society and co-operation in all matters that affect the medical profession that the greatest good can come to the greatest number so far as we as physicians are concerned and consequently the greatest good to the public at large. All this means that we should have clearly defined notions as to what should

comprise the programs of hospital staff meetings and what should be particularly the field of the county medical society.

MALPRACTICE

The New England Medical Journal reports an informal meeting of physicians in Boston at which the subject of malpractice was discussed. Four different factors or interested groups were noted. In the case of a suit for alleged medical malpractice the State Board of Registration in Medicine is the first to be concerned, inasmuch as this board has issued a license to a person who is considered competent to practice medicine; in other words, the charge is brought against a physician whom the board has sponsored. In the second place, such suit is a matter of concern to the medical profession inasmuch as the profession should at least interest itself in everything that pertains to the practice of medicine. The New England Medical Journal maintains that this is true whether the person charged with malpractice is a member of an organized county or state society or not. Thirdly, the matter is of concern to the legal profession and its representative organization inasmuch as a lawyer is always involved. And lastly the suit is a matter of concern to insurance and other medical protective companies. Our contemporary puts forth a plea for co-operation on the part of these four interested groups. And further: "If every physician testifying in a malpractice suit knew," continues the New England Medical Journal, "that a stenographic report of his testimony were to be reviewed by the State Board of Medical Registration or by a committee of the State Medical Society that had the power to discipline him for unethical practices, he would be likely to stick closely to the facts in his testimony, and to hold his imagination in check."

Yes, if the stenographic report of a doctor's remarks could be submitted to the scrutiny of the State Board of Medical Registration, or to a committee of the State Medical Society, he would be more careful as to his testimony. He should be anyway. After all, how much of the testimony of a witness is in the truest sense fact? A bad result in treatment does not necessarily imply carelessness nor neglect. Only the physician concerned knows the circumstances with which he had to contend. If only incompetent physicians (medical license implies competence) had bad results and only the skilled physicians

had good results! Some one has said: "There is so much bad in the best of us and so much good in the worst of us, that it does not behoove any of us to talk about the rest of us." The matter recalls an illustration from Holy Writ of the accused woman who was brought forth to be stoned. When the Master requested that the accuser who had never sinned cast the first stone, all quietly vanished. Many accusations of malpractice are the result of an ill-timed remark or even a shrug of the shoulder of a doctor other than the former attendant.

HEALTHFUL ADVERTISING?

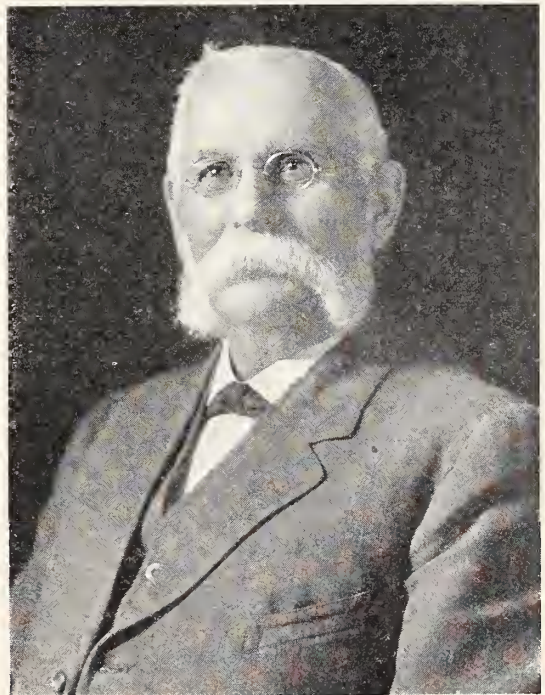
There is an adage to the effect that,
*He who has something to sell,
 And goes and whispers it down a well,
 Is not so apt to collar the dollars,
 As he who climbs a tree and hollers.*

The radio is going the arboreal shout one better. The American people have become so concerned about their health that they will eat anything, smoke anything, or refrain from either if they think that by so doing they can attain the psalmist's limit. The medical profession, it goes without saying, has been opposed to the health motive in advertising. The war that is on between the manufacturers of certain brands of cigarettes and the making of sweets is somewhat ludicrous to the medically trained mind which as a rule does not indulge in so-called up-lift propaganda. We are probably just in the stage of wonderment as to what is good for the health in the matter of foods. For a long time calories were exploited; now it is vitamins. Children are at times punished by over-zealous parents who think they must eat only what is good for their health. Meanwhile, comparatively little thought is given to such momentous subjects as vaccination and the various forms of immunization, as these do not lend themselves to exploitation in the lay press and the radio.

PROFESSIONAL FOOT NOTES

An endeavor has been made to publish brief professional biographical notes along with each paper published whenever these were procurable in time to do so before going to press. This innovation is not original with this Journal. At least two prominent publications in the United States, namely the New York Medical Journal and Record and the New England Journal of

Medicine have pursued this policy for a long time. The Journal of the Michigan State Medical Society has arranged this information in the form of foot notes, whereas the two Journals mentioned have published them all in a single column. So far as originality is concerned probably the better class of lay magazines must get the credit for it. The editor has been impressed with the little introductions which appear in these magazines as well as in the medical publications mentioned, and believes that such a policy will lend interest to the papers in The Journal of the Michigan State Medical Society. This feature has been commented upon favorably by a number of persons and so far unfavorably by none. It is understood of course that this is the editor's introduction, so to speak, of the writer and is not in any way inspired by the author of the paper.



—Photo by C. M. Hayes Co.

DR. ALBERT YATES

Dr. Yates graduated in 1872 with the second class graduated from the Detroit college of Medicine. He practiced for fifty-five years at Washington, Michigan, being active in practice to within a few days of his death in his eighty-sixth year. Dr. Yates was among the last of a type which is fast passing away—not only physician, but friend and advisor in health as well as in illness.

*"As the years roll on
 The road grows strange
 The milestones into headstones change,
 'Neath every one a friend."*

HINTS FOR THE CONCRETE STUDY OF A ROENTGEN VIEW

Estimate every film from the negative, not from the print; the latter at the best is only an extra aid. The worst film is always better than the best copy. Viewing boxes with ground glass and direct irradiation are quite inadequate for the recognition of finer details. The best are the boxes with indirect light. For the better recognition of small shadow differences, the best way is to stand well back, and also to view the film from the sides, that is obliquely to the line of vision.

If one does not possess a viewing box:—The film should never be held direct against a source of light, but should be examined against a uniform illuminated background. The sky, uniformly clouded or unclouded, is the best for this purpose, or paper on which bright daylight or artificial light is falling.

It is possible at times to put a ground-glass at the back of the film and hold it up to direct light or the sky, but this is of use only in grosser pathological findings.

Very pale, so-called flat negatives should be laid upon white paper, pressed, best in printing frame, and so inspected.—By Kohler.

AGAINST EARLY RISING*

"When ye morning riseth redde,
Rise not thou, but keepe thy Bedde,
When ye dawne is dull and graye,
Sleepe is still ye better Way.
Beastes arise betimes;—but then,
They are Beastes, and we are men.

"Is ye Weather fayre and fine?
It shall give thee Dreams divine:
Doth it poure with pelting Rayne?
'Tis a hint to doze agayne.
Is it neither Drye nor Wette?
Waite until ye Weather's sette.

"Would'st thou walke unscavenged streetes,
Catch from shaken mattes ye sweetes,
Straye forlorn through chillie Roomes,
Stumble over casual Broomes,
Scowling house-maydes round thee scan?
These befall the earlie man.

"Morning sleepe avoideth Broyles,
Wasteth not in greedye toyles!
Doth not suffer care nor greefe:
Giveth aking Bones Releefe.
Of all ye crimes beneath ye Sunne,
Say, 'Which in morninge sleepe was done?'"

* An anonymous paper of very ancient vintage.

MORE SAYINGS OF A SEPTUAGENERIAN

By DR. C. B. BURR

Drunks and disorderlies should not take seriously the "welcome to our city" invitation.

"Facts" are less stubborn than are the self-deceived who claim to be in possession of them.

Judicious altruism is a meritorious form of egoism.

To art either in painting, sculpture, or literature "nothing that is human is alien." This is its charm and furnishes perhaps the principal reason why genuine "art is long."

The "last word" will not be written or spoken until the last day.

The head of the ostrich buried in sand to exclude painful impression is a most luminous symbol of futility.

Slogans are unconvincing. For example, "Dynamic Detroit;" "In Kalamazoo We Do;" or "You'll Do Better at Smith's."

Decency in conduct is self-control based upon expediency and does not imply innocence of the realities or lack of response to urges present alike in the sage and the imbecile.

Every word here written is definite only by the use of other words which themselves need definition. Interpretations neither completely interpret nor do explanations explain.

One reason why more voices are not "crying in the wilderness" in the interest of good order, is that prolonged shouting results in hoarseness. Others are that silence is supposed to be "golden" and the vocalization involves effort. In view of all this there is willingness to concede a monopoly of pessimism to the prophets.

THE CULPRITS

When tees are green and smooth and nice?
Who waggles proudly once or twice—
And then commits a horrid slice?
My Driver!

Who helps me with my second shot,
And ought to biff it quite a lot—
But duffs the thing as oft as not?
My Brassie!

Who ought to make the ball ascend
High over bunkers and beyond—
But hooks it in the brook or pond?
My Mid-iron!

Who lays the chip-shot safe and dead—
Or makes me lift my silly head
And drop it in the sand instead?
My Mashie!

Who ought to add unto my score
Two tiny strokes, but never more—
And then takes three (or even four)?
My Putter!

In short, to close my little song,
If shots are short, or far too strong,
Who gets the blame when things go wrong?
My Golf clubs!

But when I'm fairly on my game,
Correct in strength and straight of aim,
Who gets the praise, devoid of blame?
Why, I do!

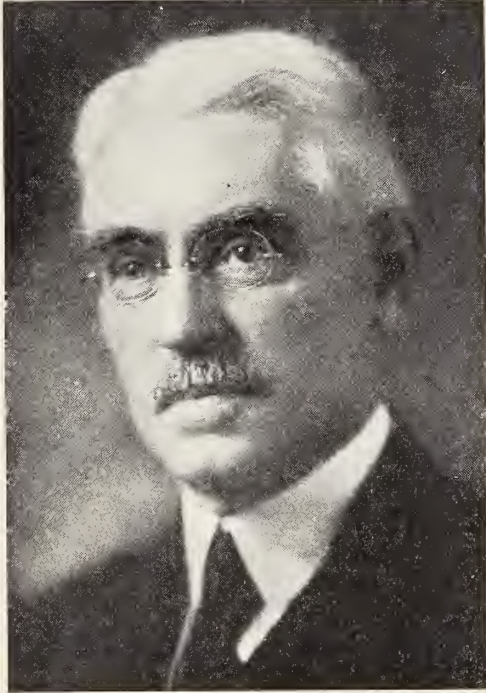
—Lucio.

DR. JAMES W. INCHES—TRAVELER AND BIG GAME HUNTER

(An Interview by the Editor)

Dr. James W. Inches left on May 12th, 1928, from Montreal on a long voyage of 7,300 miles to Capetown, South Africa. The voyage took 28 days. The sailing was smooth more particularly in the South Atlantic where one may anticipate a calm from two to three days on each side of the equator. Thence from Capetown to Johannes-

berg by rail a distance of 1,000 miles. While Dr. Inches' hunting and photographing trips were in different parts of the Transvaal, Johannesburg was his headquarters for the year. His voyage to South Africa was in response to an invitation of the Transvaal Consolidated Land Company which controls an area of approximately one-half million acres bordering on the Kruger National Park, named after Paul Kruger. Dr. Inches met the general manager three years ago when an invitation was extended him to go on a hunting expedition. There is no public hunting in the Transvaal, Dr. Inches explained. The only way that animals can be hunted is by obtaining permission



Dr. James W. Inches

of the owners of private property and after that procuring a government license, to kill a limited number of specimens during June, July and August. The other nine months of the year, he explained, constitute the closed season. "The lands upon which I hunted," said Dr. Inches, "were partly virgin territory and partly semi-civilized. Here and there pioneers open up ranches and raise cattle, corn and fruit. The climate of the Transvaal province is divided into three sections, the high veldt, the middle veldt, and the low veldt. The high veldt is 6,000 feet above sea level with a delightful climate throughout the year. It is on this plateau that Johannesburg, Pretoria, and all great gold mines of the Rand which supply 56 per cent of all the gold in the world, are located. It is a rolling prairie, no trees.

The low or bush veldt is a bush country from 600 to 2,000 feet above sea level. The climate in the bush veldt is delightful for four or five months of the year when there is absolutely no water anywhere, except in the running rivers, and consequently no mosquitoes. The rains begin in October, and after the beginning of the rainy season this is a deadly country for the white man, inasmuch as practically every white man suffers from malaria, and strange to say they take it as a matter of course and have it year in and year out. During the summer months, namely Novem-

ber to April, the temperature is very high. Komatipoort, 600 feet above sea level where I spent some time, is about the hottest place in South Africa. The temperature reached 110 twice in November. I have been told that on Christmas day, 1927, it was 116 all day, the lowest being 108 at three o'clock in the morning. The temperature is lowest during June, July, August, and September, when the nights are cool and the days delightful."

Dr. Inches explained that a white man could not stand the excessive heat on the bush veldt without wearing a cork helmet and a spine pad which, he explained, was made of four or five thicknesses of woolen cloth 8 inches wide and extending the whole length of the vertebral column. It was necessary to protect the spinal cord as well as the brain. This spine pad is secured to the outside of the shirt.

The doctor was very successful in his trips, securing four lions, two leopards and many fine specimens of the larger antelope family.

THE STORY OF SHIPWRECK

Dr. Inches had a very thrilling adventure on the high seas as well as a very narrow escape, after having lost all his baggage, hunting equipment, his lion and leopard skins, and also the skin of a python 18 feet 6 inches long. He had set sail from Durban on the east coast of South Africa, to New York on the *Cariboo*, a ship of 10,000 ton capacity, and was wrecked two days later off East London, South Africa. The doctor managed to save 5,000 feet of moving picture film which he took with him into the lifeboat, and also a number of mounted heads which had been sent by another ship. "A violent storm had arisen during the night and about 2 A. M. the *Cariboo* was carried on the rocks off shore near East London, South Africa, at a point often called the graveyard of the Indian Ocean. A number of ships have been lost at that point and nobody saved because of the fact that the locality is just a mass of jagged rocks, some below and some above the surface. We were saved by the fact that the storm ended suddenly about daylight and about one hour before we were compelled to take to the lifeboats. The ship was evidently about to sink. Had the storm continued at its former fury no one would have been saved. We were tossed about in the lifeboats for over two hours in a heavy swell which, however, was nothing like the terrific sea that was running when the wreck occurred. The wait of four hours on the ship, all the time talking to several other vessels, was a rather trying one. Six different ships were looking for us, and the *Windsor Castle*, a big ship of the Union Castle Line, we knew to be about 30 miles from us when we struck. We were continually firing torpedoes which burst with illumination high in the air in an endeavor to give our position to other ships, and as hour after hour went by, talking to our ships all the time and knowing if they did not come pretty soon we would have to take to the lifeboats with little hope of ever living in such a sea, was a trying experience. The first attempt to lower a lifeboat resulted in smashing it to pieces, but after the storm abated we succeeded in launching the boats and getting everybody into them. Only one man fell into the sea and he was recovered with difficulty. We made an effort to get our boats as far out to sea as possible in the two hours and three-quarters we were in the lifeboats because we knew that big ships would not come in near the dangerous reefs.

"At 8 a. m. we discovered smoke on the horizon which turned out to be the Windsor Castle. The hardest part of the whole wreck experience for me was climbing up the rope ladder let down to us from the side of the Windsor Castle. Getting hold of the ladder with our boats tossing about was quite difficult, but not so bad as climbing all the way up the side of the ship. I had to rest several times and at one time was afraid I might fall backward. However, I got to a point where the sailors of the Windsor Castle could assist me."

From Capetown the doctor proceeded to England on a Union Castle ship and thence to New York where he landed on January 14th, none the worse for his experience and, as he said himself, in the best health he ever knew.

(The following letter is from Dr. B. R. Hoobler who is at present on a voyage around the world. Dr. Hoobler is a member of the Michigan State Medical Society and is also a noted traveler).

On the Indian Ocean, somewhere between Beira and Dar Es Salaam, East Coast of Africa.

December 9th, 1928.

We have finished our tour of South Africa and are bound for Mombasa where we will again go into the interior, visiting Lake Victoria, see the source of the River Nile and then follow the Nile down through the Sudan and Egypt, coming out again to civilization at Cairo.

In this letter I want to give you some of my impressions of South Africa; already I have written you about Victoria Falls, and Cape Town. Today I want to tell you about South Africa's chief industry, viz—mining. Every mineral known and every precious stone worn can be found somewhere in South Africa. When one speaks of South Africa one thinks at once of the famous DeBeers Diamond mine at Kimberly and the Premier Diamond mine at Pretoria. From both of these mines millions of dollars worth of diamonds have been taken and are still being taken, with practically no end in sight. The diamonds are found in a certain type of blue clay which is deposited in the craters of extinct volcanoes. Sometimes this blue clay will reach to the very top of the ground and prospectors on discovering this particular kind of soil will find diamonds on the very surface of the ground, as was done in the Premier mine. This blue clay extends down into the pit of the volcano for thousands of feet as at the Kimberly mines. The surface area may be only a few square feet or run into hundreds of acres as it does at the Premier mine. The diamonds are embedded in this blue clay which was at one time molten lava when the volcano was active, but which now is about as hard as sandstone. This material is blasted out of the pit and crushed to fine gravel by stamping mills. It is then washed in water and the fine sand is sieved out; the residue is run over wide belts covered with a thick layer of grease. The diamonds being heavier than pebbles work their way into the thick grease and are thus recovered.

THE DIAMOND INDUSTRY

Out of six tons of rock they recover on an average one carat of diamond. A whole day's work of 5,500 men will yield about \$15,000.00 worth of diamonds. The yield used to be about twice that much but the deeper they go down into the volcano pit the less becomes the yield. Hav-

ing started from the surface to take out this rock they have naturally dug a big hole into the earth which extends in every direction to the edge of the crater. Roughly speaking, this hole is about one-half mile in diameter and at places is 650 feet deep. They expect to work it down to 1,000 feet deep when it is thought that the expense of getting the rock up will be too great, but it will take many years to get down that deep. Men work in two shifts, morning and afternoon, some men are drilling into the rock getting ready for blasting, while others load up the fragments of rock previously blasted. It is most interesting to be there at the blasting period which takes place at 2:30 each afternoon. From three to five hundred holes have been drilled six feet into the rock in many different parts of the big hole. Into these holes a ton and one-half of 25 per cent dynamite has been placed, each hole having a fuse which it takes three minutes to burn. At a given signal three hundred men light these fuses and then run for shelter. We wait with bated breath for the first explosion to occur. We see a puff of smoke with fragments of rocks thrown into the air and then comes the boom of the explosion. Some fuses burn quicker than others, hence they do not all go off at once but vary during a space of two minutes, when there is a constant cannonading, similar, it is said, to the barages put on in the great war. The explosions taking place over five hundred feet deep into the ground with solid rock walls all about, the sound reverberates back and forth shaking the very rock on which we were standing at the very edge of this great pit. All of this occurring under a cloudless sky in full view of the whole crater filled us with awe and reminded us of the sounds which we heard at the eruption of the volcano Mona Loa. As soon as the explosions were over the thousands of workmen came rushing from their hiding places of safety, looking to us like small ants. All for a handful of diamonds per day. It seemed to us that it was a useless labor, but when one considers that diamonds are put to many commercial uses, such as the making of diamond drills, and diamond dust used in polishing, perhaps it was not all useless. However, when our guide showed us the output of the mine for one day which consisted in a handful of small stones about the size of peas, many of poor color, one carried away the impression that there was a lot of fuss for such a meagre result.

But South Africa is not only rich in diamonds, but in gold. More gold has been taken from South Africa than any other spot on the earth. Johannesburg is the center of the present mining operations. There is an area of gold bearing quartz running about sixty miles in length. On an average of every mile and in spots much less, shafts are sunk into this quartz rock. This is blasted out and brought to the surface, passed through a stamp mill and washed with water and passed over wide bands of corduroy cloth. The nap of the corduroy collects the small particles of pure gold which may have been set free in the crushing process. The material is then put into cyanide tanks and such gold as is not caught in the corduroy is changed into the cyanide of gold, and thereafter by a very ingenious chemical method is transferred into pure gold bars. The mine we visited, known as the Ferrara Deep, gets a pennyworth of gold from a ton of rock. At one time they got 30 pennyworth from a ton of rock. The average is about 10 pennyworth to each ton of rock ground up. The rock being stamped into very fine sand, is taken from the

mine as refuse and heaped in great piles which gives the characteristic appearance of Johannesburg. In the dry season when the wind blows, these great sand dumps fill the air with sand dust which sifts into every home in the city. This city is the most American city we have yet visited. One would not believe that it is but forty years old. It reminds one of Pittsburgh, Cleveland or any other active thriving American city. It is called Joburg for short. We loved it.

DR. INCHES A COSMOPOLITE

It was at Joburg that we crossed the track of Dr. James Inches, our fellow townsman, who had only the week before left for America. He is as well known in Joburg as he is in Detroit and everywhere people spoke kindly of him. A friend of his, a Mr. Selby, took us through his gold mine and later to tea at his home, where we were made to feel very comfortable, he entertaining us with hunting stories in which he and Dr. Inches were the chief characters. He is an inveterate photographer and his billiard room is replete with pictures of game and mounted heads which he has brought down in the chase. But he is now one of the directors of the National Game Reserve and delights to shoot with the camera rather than with the gun. In fact, he quite converted our friend Dr. Inches to this interesting pastime. He told us how he and Dr. Inches had set up a camera for lion pictures which was to work automatically during the night.

In the morning on returning to the place they found that their camera had been chewed into a thousand bits by ferocious lions. Mr. Selby had urged Dr. Inches to remain during the night in the shelter hiding the camera, but had he done so we would have had no Dr. Inches to regale us with stories and pictures of his African travels, and indeed we almost lost him as it was, but in quite a different way. On returning home for America he took passage on a freighter which while cruising around waiting for the storm to abate before going into harbor, struck a submerged rock and sunk. I think you have read of this in the Detroit papers. Dr. Inches was rescued but I do not know whether he saved his splendid photographic material which he took while traveling, which I understand consisted of four thousand feet of film in addition to many still pictures. We expect to be able to get some splendid views of game around Nairobi to which place we are now going. Seeing game anywhere in Africa is becoming more difficult and it will not be long before many of the species are extinct, although South Africa is beginning to appreciate its value as an attraction for tourists and under Mr. Selby's able suggestion is seeking to preserve the wild life and make it easy and comfortable for travelers to come into view of it.

VISIT MRS LEWIS OF TRADER HORN FAME

I presume most of you have read the recent popular seller in America, "Trader Horn." Some of you may have heard him speak over the radio from WEAf chain, from New York. While in Joburg we went to the pains of looking up Aloysius Horn Smith (Trader Horn) and Mrs. Etheldra Lewis, through whose patience Trader Horn's story was put into print. It was a delightful hour we spent on Mrs. Lewis' front porch sitting in the same chairs, listening to the old man unfold stories of his life in the Congo. Mrs. Lewis was indeed a wise woman to see in the old peddler who came to her doorstep to sell wire grills the man

of intellect which Trader Horn has turned out to be when given nourishing food and an opportunity to unfold a story of such intriguing interest as is to be found in this early tale of life in the Congo. We had just returned from the Zambesi and as we talked of friends we had met there, and about whom we have already written you, viz, Mr. Gibson and Mr. Robin, the old man's face lighted with a smile and he told us that he knew both of these men well, having been on the Zambesi with both of them. We told them that we have spoken to them of him under the name of Trader Horn. Ah, said he, they do not know me under that name. They know me as Zambesi Jack. Then followed stories involving these three pals of the early days, all of whom are now past their seventieth birthday. It was a rare treat to have met three such characters and we feel that we were projected back nearly fifty years when Africa was indeed the Dark Continent. We have Cine Kodaks of them all and when you see them you will see the type of men who made Africa what she is today. Mrs. Lewis is an extremely busy woman, writing four to five hours each day, having completed eight books in the past seven years, all of which have had good sales.

We leave South Africa, glad indeed that we have come to know it as we have. The only thing this country needs is an adequate supply of water. Their rains come in a long and short rainy period, between which times their rivers dry up as they are not spring fed, nor fed from snow clad mountains as in our country. Severe droughts ensue with consequent loss and suffering. Sometime they may learn how to impound their water. Here's wishing them success.

B. R. Hoobler.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The American College of Physicians will hold its Thirteenth Annual Clinical Session in Boston, April 8-12. Dr. Charles F. Martin, dean of the faculty of medicine, McGill University, is president of the college this year, and Dr. John H. Musser, professor of medicine at Tulane University Medical School is president-elect and will be inducted to the presidency toward the end of the Boston meeting. Dr. James H. Means, Jackson professor of clinical medicine at Harvard Medical School and chief of the medical service at the Massachusetts General hospital is general chairman of all Boston committees having charge of arrangements for the Clinical Session of the college in April.

The program provides hospital visits, clinics, demonstrations and ward-walks during the forenoons at 15 different Boston hospitals, and for general scientific sessions each afternoon and evening in the assembly room of the Hotel Statler, which will be headquarters. Eminent authorities in their special lines will present the results of their work before an audience competent to appreciate the value of the contributions.

A Symposium on Deficiencies will take place the first evening of the session, and will be of particular interest because of the fact that de-

iciencies are nowadays assuming a far more wide-spread and important role than had heretofore been anticipated. They have come into their own as factors producing acute and chronic disease on a par perhaps with infections. The committee has secured for the program men who can speak with authority in a variety of aspects of this important subject.

Another special feature is a review of the Present Status of Vaccine and Serum Prophylaxis and Therapy, designed to give the internist a rapid survey of the field. The speaker, Dr. Benjamin White, of Boston, is an authority on these subjects and can give the high spots in rapid and yet forceful fashion.

The annual banquet of the college will be held Thursday evening, April 11, when Dr. George E. Vincent, president of the Rockefeller Foundation, will deliver the chief address. The convocation, for the conferring of Fellowships, will take place Friday evening, April 12. Dr. Charles F. Martin, of Montreal, will deliver the presidential address.

Programs and details concerning reduced fares, admission, etc., may be secured from the executive secretary, E. R. Loveland, 133-135 S. 36th street, Philadelphia, Pa.

Dr. William Haughey, Battle Creek, has undertaken to write up the history of Calhoun County for the new history of the Medical Profession which is being written, edited and compiled by Dr. C. B. Burr of Flint. Dr. Burr and his committee would greatly appreciate the efforts of other local writers if they would put their feet on the accelerator so that the work might go to the printer as soon as possible.

Dr. Carl A. Hedblom, professor of surgery University of Illinois, delivered an address on the Etiology and Treatment of Pulmonary abscess and Dr. Willis S. Lemon of the Mayo Clinic delivered an address on the Significance of Pulmonary Hemorrhage in Diagnosis at the March meeting of the Calhoun County Medical Society at Battle Creek. The papers were discussed by Doctors William Vis, Grand Rapids, and Stewart Pritchard, Battle Creek.

Dr. H. A. Reye of Detroit addressed the Genesee County Medical Society in April on the subject of Neurosis.

Dr. Clarence Cook Little, president of the University of Michigan, addressed the Wayne County Medical Society, Tuesday, March 5th, on the subject "Genetics and Cancer." The Canti Cancer film was exhibited. The evening program inaugurated the Annual Cancer Week in Wayne County. The auditorium in the Macabees building was filled to capacity.

Dr. Angus McLean has returned to his home, Detroit, after a month in California. While in California he attended the Pacific Coast Surgical Association as delegate from the Detroit Academy of Surgery. The association was held at Santa Barbara. Dr. McLean reports an excellent program emphasizing especially the president's address by Dr. A. S. Labinger on "The Influence of the British Masters on American Surgery."

Dr. John R. Ernst, psychiatrist, lectured on Mental Hygiene to the students of the Hamtramck high school, March 5th. Dr. Ernst will give four other lectures on this subject, two at

the Northwestern and two at the Southeastern high schools. These lectures are being given under the auspices of the Joint Committee on Public Health Education, Extension Division of the University of Michigan.

Dr. John R. Ernst, writes us: "Your editorial on, 'Scarcity of Psychiatrists,' in the March issue is timely and should be followed up. There are only four psychiatrists listed in the classified list of physicians in the Detroit telephone directory. They need all the encouragement you can give them."

Dr. J. S. Morrison, Royal Oak, writes: "The Journal M.S.M.S. is up to the minute and on its toes so to speak; I got a lot of 'kick' out of the March number. Every physician in Michigan ought to be a reader. More power to you."

DEATHS

DR. FRANCIS J. MAGUIRE

Dr. Francis J. Maguire of Detroit died at Grace hospital early in February, at the age of 59 years. Dr. Maguire was born in Hamilton, Ont. About 1892 he moved to Detroit and took up the study of medicine and surgery at the Detroit College of Medicine. He graduated in 1896 and started practicing medicine and surgery soon after. At one time he was connected with the surgical staff of Harper, Grace and Providence hospitals of Detroit. He was a member of the Wayne County Society, member of the Michigan State Medical Society, and a fellow of the American Medical Association. He also was a member of the Detroit Athletic Club and the Detroit Yacht Club. He is survived by his widow, a brother Arthur, an attorney of Detroit, and a sister, Mrs. William E. Clarke of Toronto, Ont.

DR. CHRISTINE LUKAS

After an illness of several months, Dr. Christine Lukas, 38 years old, 1709 East Grand boulevard, died in Harper hospital February 26th. She had been a practicing physician in Detroit since 1917. Born in Mainz, Germany, she came to the United States in 1897. She was graduated from the medical school of the University of Illinois in 1913, after which she served her internship in the Cook county hospital, Chicago.

Dr. Lukas was a member of the Women's City club, Detroit Turnverein, Alpha Epsilon Iota sorority, Wayne County Medical Society, Michigan State Medical Society and the American Medical Association.

She leaves her mother, Mrs. Elizabeth Lukas.

DR. ALBERT YATES

Dr. Albert Yates of Washington, Macomb County, died at his home on February 26th after a brief illness. Dr. Yates was 86½ years old at the time of his death and was the only surviving member of the class of 1872 of the Detroit College of Medicine. He was born at Lincolnshire, England, migrating with his parents to Canada when he was seven years old. His preliminary

education was obtained in the Public Schools at Hamilton, Ontario. Attaining his young manhood he came to Detroit and enrolled in the Detroit Medical College, then only in existence about three years. He was a member of the second class to graduate from the institution. After his graduation he practised medicine for a few years at West Lorne, Ontario, moving to Washington 55 years ago. Dr. Yates was active in practice, taking care of the medical needs of pretty much the entire township all this time. Not only was he a devoted physician but filled in an honorable way the civic duties which were entrusted to him. He was President of the Washington Savings Bank up to within three months of his death, during which period he was made Honorary President. Dr. Yates is survived by eight children, Dr. H. Wellington Yates, Mrs. F. W. Springstein, Mrs. Robert Jean, Detroit; A. E. Yates, New York City; Mrs. Minnie Hartley, Mrs. J. H. McCutcheon, Washington, Mich., Mrs. F. B. Childs, Chicago, and R. L. Yates, Erie, Pa.

DR. THOMAS J. FOSTER

News has been received of the death of Dr. Thomas J. Foster, Highland Park, Michigan. Dr. Foster located in Highland Park eleven years ago, coming from Scottville, Michigan, where he had practiced about twenty years. He was an active member of the Highland Park and Wayne County Medical Association, and the Michigan State Medical Society. He leaves a wife, Mrs. Evelyn Foster; a son, Robert; two brothers, Dr. R. F. Foster, his associate, and William J. Foster of Saskatoon, and two sisters, Mrs. William Thompson and Mrs. Mary Brundedge.

DR. SAMUEL S. C. PHIPPEN

Dr. Samuel S. C. Phippen, one of the oldest and best known physicians in Shiawassee county, died suddenly at his home in Owosso, March 12, 1929.

Dr. Phippen was born in Canada and was nearly 69 years old at the time of his death and had practiced his profession in Owosso from the time of his graduation from McGill University in 1883.

He was a member of the several medical societies, a Knight of Pythias, an Elk and a Mason. The burial services on March 14th in Oakhill Cemetery, Owosso, were conducted by the last mentioned order. He is survived by his widow; the only other relative, a brother, died in Sarnia, Ont., a few months ago. The Shiawassee County Medical Society attended the funeral in a body.

COMMUNICATIONS

Editor of the Journal of the Michigan State Medical Society:

In my essay, "Some Observations in Otolaryngology at the Vienna Clinics," published in the November 1928 issue of the State Journal, I made the following statement: "Professor Alexander does not advocate a tonsil and adenoid operation before the child reaches six years of age. An operation done before this age—may cause a hypertrophy of Gerlachs tubo-tonsil with a consequent chronic catarrhal otitis."

Professor Ruttin wrote me recently that this

observation was not made by Professor Alexander but by Professor Ruttin himself. Publication of this paper will give proper credit to Professor Ruttin.—S. E. Barnett.

MALARIAL INFECTIONS

J. H. J. UPHAM, M. D.

327 East State Street

Columbus, Ohio

March 18, 1929.

Dr. F. C. Warnshuis,
1508 G. R. National Bank Bldg.,
Grand Rapids, Mich.

Dear Fred:

Thanks for sending me the current number of your Journal. I have taken time to go over it and want to congratulate you on its excellency in every department. In connection with the article on "Paresis," I was reminded of a curious happening here last fall. Our State Hospital for the Insane is located on the west side of this city. A number of cases of paresis have been treated there by malaria inoculations. We have had no malaria in Columbus for years. I was therefore rather surprised on being called in consultation to a house not far from the hospital to find a case of tertian malaria. About a month later, I saw two more cases. I questioned the superintendent as to the possibility of his patients being the source of infection. He admitted the possibility as no precaution other than ordinary window screens were used in the hospital and he would use more care in screening his patients thereafter. Of course this may not have been the source of infection, but I am wondering if extra precautions should not be taken where this treatment is employed.

Very cordially yours,

John H. Upham.

ADENOMA AND CANCER OF THYROID

In a study made by Frederick A. Collier, Ann Arbor, Mich. (Journal A. M. A., February 9, 1929), of goiters from a severe goiter area removed surgically, 90 malignant epithelial neoplasms of the thyroid were found, comprising 4 per cent of all endemic goiters. A history of pre-existing goiter was present in 75 per cent, but microscopic examination showed evidence of its origin from some type of endemic goiter in all except one instance. This exception arose from the hyperplastic gland of exophthalmic goiter. Of the patients, 72.2 per cent were female and 27.8 per cent were male, the same ratio that exists in the total number with endemic goiters. The ages varied between 14 and 72, with 34 per cent occurring before 40 and 56 per cent between the ages of 40 and 60. The chief leading symptoms were those associated with hyperthyroidism; next in frequency were pressure symptoms, while rapid growth was noted in only 15 per cent. Of those examined, 46 per cent had an abnormally high basal metabolic rate. Correct preoperative diagnosis was made in only 25 per cent, while in 47 per cent the diagnosis was unsuspected. Histologically, 28 per cent of the growth were medullary carcinoma, 66 per cent adenocarcinoma and 5.5 per cent scirrhous carcinoma. A large number of adenocarcinomas were confined to adenomas. These should be considered true early carcinomas of the thyroid. Adenoma of the thyroid is a precancerous lesion with a small but definite incidence.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

EDITOR: Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

COUNTY PROGRAMS

Dr. A. A. Hayden, in commenting upon this subject at the State Secretaries Conference made the following pertinent statement: "If you are going to have good attendance at your county meetings you must give the members something that will repay them for their time and trouble of attending. Always have a program, and always have something of practical importance to a majority of the membership."

Experience, nation wide, confirms this statement. Upon the County Secretary or Program Committee rests the responsibility of building up attractive, attendance compelling programs. If the Secretary is lax or careless in this respect it is reflected in poorly attended meetings. It is for you, Mr. Secretary, to determine how your society is to be rated.

DUES

By-laws compel us to place on the suspended list all members whose dues are not paid by April 1st. If your dues are not paid we have no alternative but to record you as suspended, discontinue your Journal and withdraw the Medico-Legal protection. Do not become negligent and cause such action on your part. It might be costly. Just this last year a certain member permitted his dues to lapse for two months. Later he had to employ an attorney to defend himself in a suit for services rendered during his period of suspension.

Send your check today to your County Secretary. County Secretaries are requested to send in a report of all members delinquent on April 1st.

QUACK AND DRUG ADVERTISEMENTS

We wonder why the recent epidemic of "flu" or "grippe" occurred. When one turns to the daily papers we find dozens of advertisements of drugs, gargles, sprays and pills practically guaranteeing to prevent or cure the "flu". Apparently there is cropping up anew a wave of quack and nostrum advertising. Our papers are accepting these advertisements, disregarding the

merit of the drug or the truthfulness of the copy. Is it not time to recommence a campaign of exposure of these fakes and to re-educate newspaper editors and managers?

NURSING EDUCATION

President Hirschman has appointed the following committee to represent our Society in a conference that is to take up the problem of nursing education in Michigan hospitals: Doctors J. G. R. Manwaring, Flint; C. E. Boys, Kalamazoo, and F. C. Witter, Detroit.

Dr. C. E. Stewart, President of the Michigan Hospital Association, has appointed the following committee: Doctors Harley A. Haynes, Ann Arbor; W. L. Babcock, Detroit, and Stewart Hamilton, Detroit.

The two committees have arranged for a joint meeting. It is confidently hoped that from this conference there will emanate a plan to simplify the nursing education curriculums and relieve hospitals of this expensive burden.

SUITS FOR MALPRACTICE

Mr. Barbour, our Medico-Legal attorney, writes under date of February 28th: "It is my opinion that you should start a campaign to educate doctors to the necessity of using X-ray in fractures, and especially fractures of the hip. If the patient refuses, then the doctor should refuse to give further treatment, notifying the patient by registered mail as to the need of an X-ray and as to why the doctor is leaving the case if his advice is ignored."

Mr. Barbour further adds: "Also educate the doctors to use extraordinary care in the use of the X-ray, lights and electrical appliances of all kinds. These cases are very difficult to defend and on account of the serious injuries that result, large verdicts are probable."

He then goes on to cite recent cases wherein large verdicts were awarded for the failure to use the X-ray. A case is also cited in which a verdict of \$3,000 was awarded from diathermy treatments.

Trials can be won and verdicts prevented in cases when the doctor attending has

been careful and where the charge of negligence can not be substantiated. When a preponderance of evidence is introduced showing that the doctor was negligent, that he failed to use the X-ray, that he was careless and that his electrical treatments were faulty, then an adverse verdict is the rule.

You may be ten or twenty miles from an X-ray, still Mr. Barbour states: "It is my judgment that the Supreme Court would hold that it is negligence not to suggest and secure an X-ray, when it is customary to take or send a patient to a neighboring town for an X-ray." As the attending doctor it is your responsibility to use the X-ray in the treatment of fractures and failing to do so you make yourself liable.

Mr. Stryker, legal counsel for the New York State Medical Society, in the February issue of New York State Medical Journal admirably enumerates certain rules which every physician should have in mind whenever he is called to treat a patient:

First: Before consenting to treat or operate upon a patient, the physician should honestly inquire of himself whether or not he is in fact competent to treat or operate for the particular condition or ailment which he finds. Medicine of late has become more and more specialized. Men who are expert in one branch, may have had little or no experience in another. Make sure that you are really competent to treat or operate for the particular condition which confronts you. If you have any doubt upon the subject, call in one of your professional brethren who is expert in the particular subject involved, and see to it that he is employed as a consultant or that he actually renders the treatment or performs the operation in question.

CARE IN DIAGNOSIS

Second: Be careful of your diagnosis. Make sure before you arrive at a conclusion that you have ascertained, weighed and duly considered every relevant fact, including every detail of the history, and that you have considered the special systemic factors present in the particular patient. Be sure to utilize every diagnostic aid which science has made available. These would include X-ray, urine and blood tests, pathological and microscopical examinations. If you have any honest doubt as to the correctness of your diagnosis after you have weighed and considered every possible fact which should be made a basis thereof, call in another physician for a confirmation of your diagnosis. A differential diagnosis is oft-times extremely difficult. Sometimes the ablest physicians have diagnosed the condition of a woman as suffering from a tumor, and upon this diagnosis have operated, only to find that upon an examination of the uterus the woman is not suffering from a tumor, but is in fact pregnant. Sometimes a rigid examination of the patient as to her menstrual periods, the last date of intercourse, and other questions will render such a faulty diagnosis improbable.

IMPORTANT PRECAUTIONS

Third: In all questions of surgery, consider first whether in fact a surgical operation is required. In case of doubt between a radical or a less radical course, consider carefully whether or not the less radical procedure is not the one first to employ. In connection with surgical operations, consider carefully the kind of anaesthesia to be employed. Some anaesthesias are proper in some instances, and improper in others. Which one is proper depends upon a variety of circumstances, among which are the strength and age of the patient, the patient's heart and many other circumstances. Be careful to inquire whether cocaine has been administered within a short time before the administration of the general anaesthesia. Also inquire from the patient's history whether he or she has any idiosyncrasy for any particular form of anaesthetic. In the administration of the anaesthesia, make sure that the anaesthetist is competent and understands his or her duties. If possible, have a physician act as the anaesthetist rather than a nurse. Make sure also that care has been employed in the matter of enemas, and in seeing to it (except in cases of emergency involving life or death) that the anaesthetic, if it is a general one, is not administered to a patient with food in the stomach. Consider carefully whether or not a general or a local anaesthesia is the one of choice. This may depend upon a variety of circumstances, including the condition of the patient, the nature of the operation, etc. Before performing the operation, make sure that every antiseptic precaution has been taken according to the most approved methods. This includes not only the sterility of the operator and of his instruments, but of all those who participate in the operation, such as the so-called sterile nurse, etc. Then, too, in performing the operation make sure that a careful sponge count is made—that the number of sponges or packs placed within the body of the patient are counted, and the number which are removed are likewise counted, so as to be certain that no foreign body remains after the incision has been closed. Before calling for the sponge count make a careful personal inspection of the operative field to assure yourself that no foreign body is remaining, and put a record of this inspection on the hospital chart, have it done in the presence of the witnesses and have them sign the chart showing that this inspection has in fact been made.

KEEP CAREFUL RECORD

Fourth: Keep careful records. This applies not only to the records of the office, but to the records of the operation and of the treatment in the hospital. It is wise in every case to have the patient consent in writing to the operation, which consent should contain a brief statement showing that he or she understands the nature of the operation, and the possible outcome. Where a patient insists upon leaving the hospital against the doctor's advice, make sure that a statement is signed by the patient setting forth that fact. Where one physician desires, or through circumstances beyond his control is forced, to relinquish a case to another physician, cause the patient to consent to this course in writing.

Fifth: Make sure that all your instruments and appliances are of the most approved design and make, and are in proper working order. This applies not only to the operative instruments, but to the operating tables, chairs and all other appliances. Especially is this true in connection with the use of surgical needles. Make sure that

the needles are secured from some well-recognized manufacturer, and that the needle employed is of a size and strength requisite to the particular demands which will be imposed upon it.

Sixth: In all treatments and all operations, make sure that the methods employed are the proper and approved methods in general use. Do not use antiquated methods, nor employ new methods which have not yet received the sanction of the profession.

Seventh: Keep abreast of the times. Read the medical journals and the new textbooks. Keep your knowledge fresh and up-to-date. Attend your County Medical meetings where you will hear papers read of great scientific value.

Eighth: Be conservative in your prognosis. Unjustified promises have often led to disappointments, which in turn have resulted in malpractice actions. Do not promise what you are not certain of delivering.

RADIO THERAPY SHOULD BE MASTERED

Ninth: One of the most productive sources of litigation is that of X-ray therapy and diathermy. Do not attempt to do X-ray therapy or diathermy unless you understand it. A physician who merely purchases an X-ray machine and follows the instructions of the salesman or of the circular of the manufacturer, is indeed assuming a large hazard. X-ray therapy is a highly technical specialty. New discoveries and new theories are constantly evolved. The proper factors of dosage and other factors require a knowledge of the best and most recent thought upon the subject. In determining the factors, make sure that you have made a correct computation, and that you are using the proper factors generally recognized as such at the time the therapy is administered. Inquire carefully to determine whether or not the patient has had a previous exposure of X-ray within a time that would render it unsafe for you to subject him or her to a new exposure. Make sure that your machine is in proper working order, and that there are no loose wires with which the patient or the friend or parent accompanying the patient, may come in contact. Many actions have arisen in this way. In administering this therapy, make sure that the proper intervals between doses are maintained.

AVOID CRITICISM

Tenth: Be tactful and just to your fellow practitioners. Do not indulge in needless criticism. Careless remarks, oftentimes unjust, have led to litigation.

Eleventh: In treating your patient or your patient's family, exercise the highest possible degree of care and good faith. Be scrupulously honest in your advice and in your treatment. Do not give your patient any basis for the claim that you have been guilty of abandonment. If you cannot continue with the treatment, make sure that you have supplied a successor physician of talents equal to your own, and that the patient consents to this substitution. In every dealing with a patient or with the patient's family, if you are certain of your diagnosis and if you have considered and mastered every technical question of medicine or surgery which may be involved, let your conscience be your guide. Establish a reputation for good faith and fair dealing at all times with everyone.

I do not mean in this paper unduly to stress the importance or the dangers of surgery. The general practitioner bears the same responsibility

and is required to exercise the same amount of care, foresight, skill and knowledge as the surgeon. A large number of our malpractice actions have been brought against the general practitioner.

No doubt, the foregoing rules might be amplified, but from my observation in the handling of approximately one thousand malpractice actions I believe that if each and all of the foregoing rules had been complied with, a large number of the cases which I have had to defend would not have been brought at all. The practice of medicine is an extra-hazardous one. This should be recognized at the outset. The doctor has great obstacles to overcome. Many opportunities for observation have increased my sympathy with and my understanding of the problems which confront the medical profession. The foregoing rules which I have endeavored to enumerate are based upon a long and wide experience. They are not stated in any spirit of criticism of your profession, but rather insofar as they may be helpful, as a guide.

ACTIVITY

The last week in February was cram full of legislative activity. Please refer to the March issue and also this number for legislative reports. It sure was a "heck of a winter" filled with intense longings to hie away to the south with its sunshine and fishing. We envied those who were able to do so. And now comes the spring rush, conferences, clinics, post-graduate courses, legislative watchfulness, plans for the annual meeting, committee work—one must be on their toes lest they "fall down with a boom." Most of our County Societies are commendably active. Others are dormant or else permit hospital staff programs to usurp their activity. Staff programs should be limited to administrative affairs. A joint committee has been appointed to solve the problem of nursing education in Michigan. Our State Commissioner of Health wants the individual doctor to sell vaccination toxin-antitoxin, typhoid inoculation and similar preventive measures to your patients. It is your right and privilege to do so. It is your responsibility to tell the patient: "It's time for Jimmy or Jennie to be vaccinated or inoculated," and you should make the appointment. Unless you, the family doctor, do so arrange, then it will become obligatory for the health officer to assume such treatment. We borrow the slogan of the Toledo Academy of Medicine: "Sell Health Protection to Your Patient." The same policy should prevail in pre-school examinations, and periodic physical examinations. It is your personal fault if you permit a clinic, a lay group or a health department to assume such practice. It's disheartening to read the representations made by members of the pro-

fession at the hearing on the Newton bill. The Newton bill is a most pernicious piece of legislation introduced in Congress, sponsored by social workers, nurses and job-seekers. The A. M. A. condemned the bill and opposed its enactment. The proponents received support from one state health officer and from several professors in medical schools who are without practical experience in general practice, nor have they a true conception of medical economics. They repudiate the profession by their statements, they are traitors to their fellow doctors and they abet pernicious policies. The time is here when they should be called to account, if not expelled from membership in our societies.

Several committee hearings were attended in Lansing. Chiro's, Osteos, Christian Scientists and Druggists raised questions and objections that had to be explained or adjusted. At present writing the bill is up for passage. The Osteos introduced a bill that would give them full rights of practice and a separate board. At the hearing they appeared several hundred strong. Our protest was duly recorded. We are unable to foretell the fate of this bill. And so legislative activity demands constant vigilance. We cannot voice the great indebtedness we all owe to Dr. Kiefer for his constant activity. More about that later.

The Bay City Post-Graduate Conference is scheduled for the 27th. Under difficulty a splendid program was prepared.

Speaking of activity, we urge every member to read the article on that subject published in this issue. It sets forth what your Society is doing for you and the dividends you receive from your dues.

March 22nd: Our two bills are "a special order of the Senate for consideration on March 26th." The Osteos are working hard to defeat them. As you read this the result will have been published in the daily papers.

And so ends another month.

OSTEOPATHS' SENATE BILL NO. 239

"To practice in all branches including medicine, surgery and midwifery . . . and shall have the same rights as physicians of other schools of medicine."

Such is the purpose of the above numbered bill, now in the Public Health Committee of the Senate.

At a hearing the proponents were asked if the requirements of the present medical practice law were too high. The answer was, no. When asked why then a second,

duplicating board when they sought the same rights to practice as are conferred on graduates of medicine the answer was: "To preserve our identity."

There is no question but what Osteopathic training is assuming a higher plane. That they are receiving good training in fundamentals is not to be denied. However, they have not yet attained the standard of the American Association of Medical Colleges. They do, however, desire full, unrestricted rights to practice medicine, surgery and obstetrics. There is but one answer: "Meet the present requirements of the Board of Registration in Medicine." There cannot be two standards. There should not be two boards. There can be no discrimination. All licentiates to practice medicine, surgery and obstetrics must comply with one, independent standard.

Until the Osteopaths perceive this, until their colleges become Class "A" schools, not until then, should they receive a license permitting unrestricted practice.

Opposition, on this ground, should be recorded and filed with Representative Culver, Chairman of the House Committee on Public Health, Lansing, Mich. If you have not done so, file your protest. Do not fail in this.

YOUR SOCIETY

A GENERAL OUTLINE OF ACTIVITY

In the February Journal the transactions of the Annual Conference of County Society Secretaries was published. This conference was planned to impart to the Secretaries and our members an intimate view of the broad scope of activity that characterizes the work of the American Medical Association. The published transactions reflect the tremendous amount of work that the American Medical Association is constantly directing for the ultimate benefit of the public and for the conservation and enhancement of the interests of the individual doctor. It is deplorable that a great majority of doctors are in ignorance as to what is being accomplished by our National Association. This conference sought to supplant that ignorance by presenting facts and records. It is sincerely hoped that the effort has resulted in causing our members to gain a true insight of the work of the American Medical Association.

There is a similar degree of ignorance and misinformation reflected in the minds of our members relative to their State Society and what it is achieving. It has therefore been deemed desirable to publish

this article imparting the scope and activity of your State Society. It is impossible to do so in minute detail. This attempt is confined to general facts.

MEDICO-LEGAL PROTECTION

Every member in good standing is entitled to and receives full legal protection in all malpractice suits or threats of suits. Our retained attorneys protect your legal rights and defend you, if necessary, through the last courts of resort.

An average of one suit or threat of suit is reported each day of the year. No doctor knows when some ingrate coming with an attorney may threaten suit or actually file suit against him. When such an experience confronts one, he will find a most sustaining comfort in the knowledge that his legal rights will be guarded by a most talented firm of attorneys advised in professional facts by the Medico-Legal Committee. Personal worries are banished. Legal expense is defrayed. The member receives protection without further cost. Such protection cannot be purchased elsewhere and in itself is worth to each member triple the amount of his state dues.

To accord this protection it is necessary to provide an ever alert and ready system that embraces a corp of attorneys, director, representatives, correspondents and record details. Numerous factors are concerned because the protection accorded is not self propelling. It is difficult to reflect the host of essential details, yet they are available twenty-four hours a day for each member. Many an interesting instance might be cited revealing the promptness and effectiveness of this protection which is a valuable membership benefit.

THE JOURNAL

All too frequently the Journal is received and read with no thought in regard to the details requisite to publish it. Our efficient Editor has well enunciated the editorial policy. The member is uninformed as to the amount of time given by the Editor in editing the original manuscript, reading galley proof, then, page proofs, writing editorials, classifying original articles, reviewing other Journals and books, remaining abreast of progress so as to promptly transmit to the members dependable facts and so prepare for you each month a Journal that is of intense value to every member as well as a credit to our Society. There is a vast amount of time and labor expended in editorial direction.

In addition to the editorial supervision there is a business side that must be con-

ducted and directed ere each month's issue can be sent to a member. In 1928 the total cost of The Journal was \$15,103.24. From your annual dues \$2.50 per year is credited to the Journal fund. A total of \$8,458.36 was thus received leaving a balance \$6,644.88 to be acquired to defray all publication costs. This balance is acquired through advertising sales. Advertising space is not sold without effort. Constant contact with advertisers must be maintained and arguments advanced to secure renewal of expiring contracts. Then follows service to the advertiser which consists of securing copy each month, sending it to the printer, obtaining proof, sending the proof to the advertiser and upon its return to cause the printer to make the corrections. In addition, inasmuch as The Journal accepts no advertising that is unreliable or not in conformity with the rules of the American Medical Association Council on Pharmacy and Chemistry, all such copy must be carefully read and the Council's published reports examined to ascertain if the drug or preparation has been approved. We are not then through with our advertising affairs, monthly "dummy pages" and copy instruction must be prepared for the printer so that he can make up the advertising forms allocating each ad to its specified place for which the advertiser pays. Then, when the month's issue is mailed, entries of sales are made on our ledger, bills made out and remittances credited. To cite these details is easy, to execute them consumes much time and labor. Our advertising income in 1928 was \$8,474.13. Were it not for this income the present Journal could not be sent to our members without an increase in dues of \$2.50 per member.

The business details of The Journal do not end with the advertising department. An addressograph mailing list must be maintained, kept by railway train routes and verified by membership record. Doctors move, change office locations comparatively frequent so that there average a hundred "change of address" each month. The mailing list must be checked with the monthly reports of Secretaries. Following this, each month, these addresses must be transferred to 3,658 envelopes and arranged by train routes and then delivered to the printer where The Journal is inserted and delivered to the post office. Here they are weighed, postage computed and paid. The issue is then on its way. There remain a few un-noted details. A postal regulation requires that

stamps must be placed on each one of the some two hundred Journals sent to Grand Rapids members. Stamps must also be put on copies going to foreign subscribers. The Journal is entered as second class matter, consequently if the address is not correct or the member has changed address and failed to notify us the postal officers do not forward the Journal. Instead we receive a card notifying us of non-delivery. This necessitates writing to the County Secretary to ascertain the new address of the member. Such letters of inquiry average about eight to ten per month—just a small additional supervisory work. Then lastly two copies, a form card filled out and a check accompanying is sent to the Copyright Bureau in Washington to maintain copyright protection. Are we now finished? No. Authors desire reprints. A reprint order is sent with the galley proof—an estimate of reprint size is made and price quoted. Upon receipt of an order from the author, this is entered, transmitted to the printer and eventually the order is shipped to the author. Now come the printers bills which require checking, distribution to several Journal funds and issuance of vouchers to pay with proper ledger entries. One more thing, illustrations, prints and cuts are obtained from the printer and returned to the author. Eight copies of each issue are carefully laid aside for binding at the end of the year. Some fifty letters a month are written in addition to the correspondence already noted that deal with out of state men desiring a copy of a certain issue, requesting free insertion of some notice, proffering some article, free exchange copy for libraries and schools or offering trade credit for advertising space and maybe a few fool suggestions. Such is the monthly requisite of time, work and supervision that demands precision and is repeated with meticulous detail twelve times a year. Thus only is it possible to send to each member The Journal that he is receiving. Do you visualize or comprehend the work involved? It is registered to enhance your membership value and benefits.

SOCIETY RECORDS

County Secretaries remit and report monthly. The bulk of remittances are received during the first three months of each year.

Upon receipt of the report the amount of remittance is recorded in the general ledger, crediting two dollars to the Defense Fund, two and one-half dollars to

The Journal and the balance to the general fund.

A member's record is important and is kept in a permanent card file drawer, by counties. This card imparts, name, age, address, school, degrees, date of receipt of current dues and number of membership certificate with date when it was mailed and lastly date upon which his name was reported to the American Medical Association.

Upon receipt of dues the following entries are made: ledger, record card, mailing list, monthly report to the American Medical Association and then his certificate is made out, addressed and mailed. This constitutes six separate entries for each name. Such handling is accorded to the some 3,500 members and demands accuracy in addition to many hours of time.

A monthly report is sent to the Chairman of the Medico-Legal Committee.

The minutes of the monthly meetings of the Executive Committee are written up and published in The Journal.

The annual and mid-winter meetings of the Council minutes are carefully edited and published in detail in The Journal, as are also the minutes of the annual meeting.

Minutes of the Joint Committee on Public Health and of the Legislative Commission are published in the Journal and are part of our permanent record.

In consequence of the above systematic and detailed recording the activities of our Society are preserved for all time.

In regard to finances, a very detailed set of books are kept. All receipts are in the form of checks or drafts and all disbursements are made by voucher. No money is handled. At the close of each year the books are audited by certified accountants and in the Secretary's annual report there is an itemized record of all receipts and expenditures. Sound investments in bonds are made of surplus funds at the beginning of the year. As funds are needed these bonds are sold, thereby yielding a higher interest earning than can be secured on daily balances at the bank.

In addition to our Society fund the office of Secretary handles the funds of the Joint Committee and issues vouchers for its monthly pay roll and expenses.

All in all some two thousand vouchers are made out and mailed during a year. This is but another feature of detail, consuming time, of Society activity requiring careful supervision.

POST-GRADUATE CONFERENCES

The history and growth of this Society activity has been imparted through The Journal and in annual reports. Our conferences are an important activity. About twenty are conducted each year and last from one to four days each. A tremendous amount of detail is exacted.

First, we must arrange a schedule of dates and localities. This is finally determined only after many letters to Councilors and County Society officers. Next, again by correspondence, we ascertain desired subjects and speakers for a given program. Then follow letters to speakers inviting participation and frequently we have to write several times as invitees often have previous engagements. Eventually, when the program is all lined up it is mimeographed and sent with a letter to all the doctors in the district. When possible the Secretary attends. A single conference completed, a letter of thanks is written to all the speakers and an expense voucher is sent to them.

Such are the mere details with omission of emergencies occasioned by securing a speaker to replace an original invitee who notifies us the last day that he cannot go; the providing of lanterns, newspaper publicity, transportation for some speakers, and recording of the Conference in The Journal.

JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

The object of the Joint Committee is set forth in the following declaration:

"The function of the Joint Committee is to present to the public the fundamental facts of modern scientific medicine for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting or attacking any school, sect, or theory of medical practice. It will send out teachers, not advocates.

The committee is constituted from four representatives of the State Society, four from the University of Michigan and one each from the following state organizations: Detroit College of Medicine and Surgery, Dental Society, Nurses Associations, Department of Health, Tuberculosis Associations, Welfare Association, Board of Registration in Medicine, Wayne County Medical Society, Hospital Association, with President C. C. Little of our

University as the active chairman of the committee.

A corps of some 300 speakers are enrolled, each is assigned from one to three medical subjects that form the basis for his public address.

Bookings are made by the extension division of the University. Meetings are sponsored by Parent-Teachers Associations, luncheon clubs, Granges and similar lay organizations.

During the year some 480 public meetings were sponsored. It must be perceived that this is an achieving form of public education.

ENDOWMENT FOUNDATION

Mindful of our educational obligation and realizing that the coming years must witness still greater extended efforts, on January 1, 1927, trust agreements were entered into creating an Endowment Foundation. Its purpose is indicated by the following paragraph of the agreements:

The purposes of this trust are to pay the net income of the fund or funds held in trust on the written order of the Executive Committee of the Council of the Michigan State Medical Society, for the purpose of providing post-graduate instruction without fee for those designated by said Executive Committee, to conduct clinics and courses of instruction without fee in hospitals and medical schools in the state of Michigan, and to provide funds either by gift or loan to sustain such persons as designated by said Executive Committee, during the period of attendance on said post-graduate instruction or said clinics.

It is quite generally recognized by our medical schools, medical organizations and members of the profession that an outstanding obligation exists to provide post-graduate instruction opportunities for all the members of the profession. Collectively the entire profession is vitally concerned in the maintaining of a high type of medical practice on the part of all doctors of medicine.

Our science executes rapid strides of progress. Principles and theories of yester-year are displaced by the proven new facts and discoveries of today. Methods of diagnosis become more accurate and new methods of treatment evolve from the new facts uncovered. These conditions make it imperative that the recent grad-

uate, as well as the man advanced in the years of practice, shall have at their ready command opportunity of remaining abreast of the times and acquiring for themselves these accepted methods of treatment. Further, that they be encouraged to discard the old, less efficient methods for the more modern procedures. That unitedly we grasp each other's hand and reflect a profession that is efficient for service to all mankind. That, we feel, is the outstanding obligation of the profession that is efficient for service to all mankind. We can no longer condone scattered groups of outstanding professional men trailed by the mediocre or wholly incompetent. Well nigh 100 per cent capability is desired for all of our Michigan doctors.

Our State Medical Society has for years been mindful of such a responsibility. In fact it has been the leader, (and we say it with pride) in the field of State Societies in giving thought to the problem of post-graduate medical education. Through officers and committees we have concerned ourselves with the scientific programs of County Societies. Some 12 years ago we organized clinical teams that went from county to county meetings. Councilor district meetings were sponsored and capable speakers provided for their programs. Regional clinics were conducted. Three years ago District Post-Graduate Conferences were instituted and during the past year two such one or two-day meetings were conducted in each Councilor district. In addition a three-day clinic was conducted at the University hospital while endorsement and support has been accorded to several clinics arranged by hospitals and local organizations. We are justly proud of this activity and this policy that seeks to maintain our members in the van of medical progress.

However, we are not content with what has been accomplished; much still remains to be done. Increased activity is requisite. It is to that end that our Society, through its officers and Council, is directing its thought and effort. Illustrative of our enlarging scope of activity is the foundation. Sustained effort is being recorded to reach a million-dollar goal. Each month's efforts record progress and is but another activity to the members' interest while at the same time consuming the thought and time of the Secretary.

ANNUAL MEETING

Preparations for our annual meetings

extend through each year. One meeting is adjourned and work immediately commences upon the next annual meeting. The details entailed relate to section officers, section programs, General Session programs, Council sessions, House of Delegates, delegate's credentials, Committee reports, Council reports, invited speakers, invited guests, Journal publicity, printed programs, local arrangements, section meeting rooms, lanterns, entertainment, hotels, exhibit space, sale of space, placement of exhibits, registration booth and clerks, section reporters and a myriad of minor details. Few comprehend the vast amount of time, correspondence and actual work necessary for a successful annual meeting. Your Secretary makes several visits during the year to the meeting city and appears on the scene two days before the first session and leaves a day after the last session. During the three-day session the hours of duty range from 18 to 20 each day. The annual meeting is an exacting taskmaster in providing for our members.

LEGISLATION

Our legislative interests have called for intense alertness and activity during the past two years and in the present session of the legislature. For sixteen months the Legislative Commission has been extremely active in the discharge of its duty. The Secretary is the Secretary of this Commission and the heavy recording, clerical and correspondence work had to be assumed. Sessions of the Commission have been frequently held and numerous conferences were held with state and legislative officials. An insight as to the extent of the work may be gained—that about two-thirds of one stenographer's time was devoted to legislative work. A file on this subject contains some five thousand items. It is quite patent that a large percentage of members have no conception of what the protection of their legislative interests entail. Further, they fail to appraise its value to their personal interests.

HIGH SCHOOL LECTURES

To extend our public health education, and also seeking to cause the coming generation to have a basis of sound knowledge as to scientific medicine, the state joins with the extension division of the state university in conducting during each year a series of lectures before high school students. The extension division arranges for the dates of these high school assem-

blies in eight of our larger cities. Each school has from 5 to 10 lecture hours during the school year. The State Society with the local County Society provide the speakers and formulate a synopsis of the talks scheduled. In the city of Detroit, the Wayne County Medical Society has assumed this work. The number of high schools where these lectures are given is being increased each year. This year we are making a trial in two so-called rural counties in order to make observation with a view of statewide extension for this educational movement.

SURVEY OF MEDICAL PRACTICE

In 1925 the Secretary's office conducted a survey of the state to determine the location of doctors in relation to population and public need. The findings were duly published. Lay organizations have recently become interested in the subject of available medical service. There is much discussion by the Grange and even some effort is being made to provide medical services to rural districts. At the last Council meeting the Secretary recommended a re-survey of the state. The Council has directed such survey be made during 1929. In consequence thereof additional work is bestowed upon the executive office.

LAW INFRACTIONS

There is ever cause for complaint on the part of a doctor when he finds in his community some one or more individuals violating the medical practice laws in Michigan. Enforcement of law is the duty of constituted enforcement officers. Our Society is not a policing power of the state. However, because of failure of state and county officers to enforce the law, our members have expressed the desire that our Society shall assume such a role in some reasonable degree. In consequence of such expression the Council has directed to so proceed. In 1928 some fifteen complaints were filed and prosecution secured. Thus far in 1929 we have attained two convictions, one awaiting trial and nine cases under investigation. Here again your Society is rendering service and benefiting every member.

STANDING COMMITTEES

The following standing committees achieve definite results and clear their activities through the Secretary's office:

Public Health—Co-operating with state and local health agencies.

Tuberculosis—Uniting with and advising the State Anti-Tuberculosis Society.

Civic and Industrial Relations—Activity is designated by its name.

Medical Education—Complying with the requests of the American Medical Association Council on Medical Education.

Medical History—Compiling a medical history of Michigan.

Nursing Education—Joining with a similar committee from the Michigan Hospital Association seeking to solve the problem of nursing education.

An exceptionally large volume of effort thus expended accomplishes material and personal benefit for every member.

CRIPPLED CHILDREN COMMISSION

Liaison has been made with this state organization. Two of our members are ex-officio members of the Commission. It is proposed to conduct county clinics under the auspices of county societies and arranged through the office of the State Secretary. This evidences a new activity that is for the personal interest of a member.

SUMMARY

The attempt has been made in the foregoing to impart in generalities the functions and activities embraced by your State Society and to convey to each member just how and to what degree it is concerned in the enhancement of individual and collective interests. It is impossible to set up in words a true and all inclusive citation of what is involved in administrative work. Unless absolute contact is had with all the phases of the work it is difficult to comprehend and realize the sum total of effort expended. The desire is paramount that each member should perceive that his State Society is a live, going, aggressive and progressive organization. That it renders personal service. That membership is a valued asset. It is so, because the Councilors, Committees, President and Secretary are ever alert striving constantly and persistently to achieve the ends deemed so desirable. The scope of work, as time passes, extends further and further embracing new and varied features. They ever concern and revolve about the individual doctor. The individual doctor should perceive that the returns upon his annual dues are in dividends several times their amount. His perceptive vision should also visualize the fact that those in whom trust is reposed are commendably acquitting themselves of that trust. Continued and sustained support is merited and should be forthcoming in full degree. It is your State Society—

existing, representing and achieving solely for you—its member.

PLEDGED ACTIVITIES FOR 1929

1. Legislation.
2. Post-Graduate Conferences—District.
3. Endowment Foundation.
4. Establishing Contact with Michigan Hospital Association for Discussion of Nursing Problem and Hospital Survey Committee—Recommendations.
5. Prosecution of Illegal Practitioners.
6. Annual Meeting Program.
7. Two or Three-Day Clinic at Ann Arbor and Detroit.
8. Upper Peninsula Clinics—Four.
9. Crippled Children Clinics.
10. Co-operation with State Board of Health in Immunization Campaign.
11. Survey of State as to Available Medical Services in Communities.
12. Publication of History.
13. Joint Committee on Public Health Education and High School Lectures.
14. Women's Auxiliary.
15. The Journal.
16. Medico-Legal Defense.

EATON COUNTY

The officers for the Eaton County Medical Society for the year of 1929 are: Dr. K. A. Anderson, Charlotte, President; Dr. H. Hoover, Grand Ledge, Vice President; Dr. Carleton Dean, Eaton Rapids, Secretary and Treasurer.

We had a very successful meeting in January, having had a 60 per cent attendance. Dr. William Behen of Lansing presented a very interesting case of parotitis and gave us a very instructive talk concerning same. We also discussed the way in which the A. M. A. is serving the individual physician and presented several of the books and magazines that are published by the society.

—Carleton Dean, Secretary.

LENAWEE COUNTY

The regular meeting of the Lenawee County Medical Society was held at Dobbin's Tea Room in Adrian, on the evening of February 21st. Dinner was served at seven, after which a short business meeting was held, with the new President, Dr. R. G. B. Marsh in the chair.

It has been planned to have a series of symposia this year, the first to be three papers on obstetrics. The first of these on "Management of Labor and Puerperium," was given by Dr. B. C. Carrol of Toledo, followed by charts and lantern slides. The paper was very instructive and intensely practical, and aroused the most extended discussion which has been given any paper in a long time, especially in the way of questions asked Dr. Carrol. The charts were very illuminating to any who may have thought that the last word on the subject has been said in America, as the death rate is the highest in this country of all the countries from which statistics can be obtained except

Chile. Such figures gave us a start, and we all went home with the purpose to do our bit toward lowering that death rate. Your correspondent feels that this was one of the most profitable meetings that this society has held in a long time.

C. H. Westgate, Secretary.

CALHOUN COUNTY

The February meeting of the Calhoun County Medical Society took place at the Kellogg Inn, Tuesday evening, February 5, 1929.

Thirty-six fellows of the society partook of the dinner, in honor of our guest, Dr. Channing W. Barrett, of Chicago.

At 7:45 the President, Dr. R. V. Gallagher, called the meeting to order. The Secretary's report, as printed in Bulletin, Vol. XII, No. 2, was approved as printed. The bills for current expense were read and ordered paid.

The Secretary made a brief report of his recent visit to the A. M. A. headquarters in Chicago, and called attention to the efficiency of this organization, and to some special features for rendering service to the members which but few doctors use or even are acquainted with.

Dr. Wilfred Haughey introduced the essayist, Dr. Channing W. Barrett, Professor of Gynecology at the University of Illinois Medical School, whose paper on "The Treatment of Fibroids in Relation to the Pathology" was listened to with the keenest interest by all present.

His simple statement of facts in connection with the subject of the treatment of uterine fibroids, whether by surgery or radiology left no one in doubt as to the proper method of handling these cases. No one could listen to him without a feeling that he was a master of his subject, and it afforded everyone a great amount of satisfaction to hear this subject so thoroughly covered.

The discussion which followed was timely and interesting, and, judging by the number who talked or asked questions, the subject was one of quite general interest. Among those who took part were Doctors Case, Kolvoord, Cooper, Rosenfeld, Gilfillan, Giddings, Stone, Hafford, Kingsley and Zelinsky.

Meeting closed by a rising vote of thanks to Dr. Barrett. Members present, 45.

MONROE COUNTY

Monroe County Medical Society met at the Park Hotel, Monroe, February 21, 1929. Dinner was served at 6:30 p. m. Dr. L. M. Coulter, Lansing, of the State Department of Public Health, spoke on "Public Welfare and Health Promotion," and expalined the county health department project. The society went on record as approving a project for Monroe County. To further it, a public health committee was appointed, consisting of Doctors J. A. Humphrey, H. L. Meck, J. H. McMillin.

Florence Ames, Secretary.

BAY COUNTY

Bay City, Michigan, February 4, 1929.

Hon. Fred W. Green,
Governor,
Lansing, Michigan.
Sir:

In accordance with action taken by the Bay County Medical Society with reference to the care of mental defectives and the prevention of an increase in the number of feeble-minded and men-

tally defective persons in the state of Michigan, I am enclosing herewith copy of a resolution passed at a meeting of the Bay County Medical Society for your consideration.

The members of the Bay County Medical Society wish to be clearly understood in this matter as sponsoring a legislation intended for the correction of a social evil on a scientific basis. Their action is not to be considered as an effort to institute birth control, but purely an attempt to aid in correcting a social evil by a specific means.

Respectfully,
BAY COUNTY MEDICAL SOCIETY,
By: A. D. Allen.

COPY OF RESOLUTION

WHEREAS, approximately thirteen thousand people are at the present time confined in state institutions for the feeble-minded, insane and epileptic in the state of Michigan,

WHEREAS, approximately two thousand patients are awaiting admittance to the above mentioned institutions,

WHEREAS, the present situation has lacked proportions due to a lack of foresight on the part of those administering state affairs in the previous generations,

WHEREAS, the problem for future generations will be greatly multiplied unless some action directed at the cause is taken,

WHEREAS, the burden of this situation is rapidly reaching such proportions as to become a menace to the economic welfare of the state,

WHEREAS, feeble-mindedness and defective personality are the causative factors in a large proportion of the present indigent population of county and other charity organizations,

WHEREAS, the Governor of the state of Michigan has given his personal interest to the present conditions existing in the state of Michigan with reference to the care and housing of feeble-minded, insane and epileptic patients.

WHEREAS, the Bay County Medical Society, composed of practicing physicians practicing their profession in the County of Bay, is deeply interested in the problem presented and desirous of expressing their commendation to his excellency, the Governor of the state of Michigan, for his human attitude in dealing with this problem,

WHEREAS, the Bay County Medical Society is interested in bringing about a solution of the grave problem presented because of the alarming increase in the number of feeble-minded, insane and epileptic persons in the state of Michigan,

WHEREAS, the said Bay County Society is convinced that segregation alone will not bring about a solution of the problem, now therefore, be it

RESOLVED, by the Bay County Medical Society, in meeting assembled January 14, 1929, that the committee of said society be instructed to write to his excellency, the Governor of the state of Michigan, an expression of the commendation of the Bay County Medical Society for the humane and sincere attitude of his excellency, the Governor, in seeking to provide adequate housing facilities and accommodations for the feeble-minded, insane and epileptic patients in the state of Michigan; be it further

RESOLVED, That said committee communicate to the Governor the desire of the Bay County Medical Society to co-operate in every way possible with the Governor in bringing about a solution of the problem; be it further

RESOLVED, That said committee communicate to the Governor the following recommendations:

(1) That a committee made of technically trained persons, part of whom should be chosen from individuals not connected with state institutions at the present time, to make a survey of the present situation with reference to this problem to recommend legislation regarding the following:

(a) An examination of all children in the schools of the state of Michigan to determine their mental condition.

(b) Strengthening the laws governing marriage so as to eliminate the propagation of the mental defectives.

(c) Marriage of mental defectives permissive only on submission to sterilization.

(d) To provide a more workable sterilization law for mental defectives.

(e) Revision of law governing persons afflicted with venereal diseases.

BAY COUNTY MEDICAL SOCIETY,

(Signed) A. D. Allen, M. D.
P. R. Urmston, M. D.
J. W. Gustin, M. D.
Jas. Donnelly, L.L.B.

MUSKEGON COUNTY

In answer to your letter of February 26th, the following are the present officers of the Muskegon County Medical Society:

Dr. F. N. Morford, President; Dr. Pitt Wilson, Vice President; Dr. R. J. Douglas, Secretary-Treasurer; Dr. C. J. Bloom, Delegate to State Convention; Dr. V. S. Laurin, Alternate to State Convention.

R. J. Douglas, Secretary.

MACOMB COUNTY

The March meeting of the Macomb County Medical Society was held on March 4th at 12 o'clock noon, at the Colonial Hotel, Mt. Clemens.

After enjoying a hearty luncheon the members were called to order by the President, Dr. Bower.

The President urged the members to write letters of protest to Senator Alex Cowan regarding the Chiropractor Bill which passed the Legislature and which is to be brought to the Senate shortly. The Secretary was instructed to write a similar letter of protest on behalf of the society.

The Secretary read communication from the Wayne County Medical Society, inviting the members to attend the Beaumont Lectures on March 25 and 26.

Dr. Wm. N. Braley, Chief Officer of Health of Highland Park, and attending Pediatrician of Highland Park General Hospital was the speaker of the day. He gave a very instructive, practical and interesting paper on "Obscure Fevers in Children."

There was an interesting discussion following the paper, which was well received.

The meeting was adjourned at 2:15 p. m.

Joseph N. Scher, Secretary.

HOUGHTON COUNTY

At our regular Annual Meeting held January 8, 1929, election of officers for 1929 followed at 6:30 banquet. The following officers for 1929 were elected: President, Dr. Alfred Labine, Houghton, Mich., Vice President, Dr. W. A. Manthei, Lake Linden, Mich., Secretary-Treasurer, Dr. T. P. Wickliffe, Lake Linden, Mich., Councilor for 3

year term, Dr. K. C. Becker, Mohawk, Mich., Delegate to State Meeting, Dr. W. H. Dodge, Hancock, and Alternate, Dr. W. A. Manthei. Social hour followed.

T. P. Wickliffe, Secretary.

Following is the program of the Michigan State Medical Society Post-Graduate Conference, Tenth District, Bay City, Michigan:

- 2:00 P. M.—Treatment of Skull Fractures,
F. C. Warnshuis, M. D., Grand Rapids.
- 2:45 P. M.—Proctology,
J. Hirschman, M. D., Detroit.
- 3:15 P. M.—Cranial Injuries in the New Born,
Thomas D. Gordon, M. D., Grand Rapids.
- 4:00 P. M.—X-ray, Radium and Surgery in Cancer,
Thomas E. Jones, M. D., (Crile Clinic),
Cleveland, Ohio.
- 4:30 P. M.—Acute and Chronic Otitis,
Austin A. Hayden, M. D., Chicago, Ill.
- 5:00 P. M.—Treatment in Cardiac Disease,
Richard M. McKean, M. D., Detroit.
- 6:30 P. M.—Dinner.
- 8:00 P. M.—Organizational Activity,
F. C. Warnshuis, M. D., Grand Rapids.
- 8:30 P. M.—The Causes and Differential Diagnosis
of Paraplegia,
L. J. Pollock, M. D., Chicago, Ill.
- 9:30 P. M.—Prenatal Care—Moving Pictures,
Alexander M. Campbell, M. D., Grand Rapids.

KALAMAZOO COUNTY

The regular meeting of the Academy of Medicine was held February 19th at the rooms in the library. Dinner was served at 6:30.

The program for the evening followed immediately and the business session held afterward.

Judge George V. Weimer gave an illuminating discussion on "Cross Examination." He made clear to us the function of this procedure in court and pointed out the significance and weight it carries to the jury or judge.

Dr. C. G. Jennings of Detroit gave a very interesting discussion on "Acute Respiratory Infections," emphasizing especially the care of pneumonia patients.

The business meeting was called to order by the President, W. E. Collins.

The minutes as printed in the bulletin were approved.

No reports from standing committees.

Special committee reports.

Dr. Stewart, Chairman of the City Clinic Committee read the following letter:

"To Whom This May Concern;

"The members of the Kalamazoo Academy of Medicine have become convinced that there is an abuse of the so-called free medical, surgical and health clinics which are being held at regular intervals in the city of Kalamazoo and vicinity. The physicians maintain that they, no more than other business and professional people, should be called upon to give their time and services free of charge indiscriminately. With this end in view the following committee report was adopted in the regular meeting of the Academy. This is the report of a committee appointed by the Academy to investigate free clinics; see report in enclosed Bulletin.

"From now on the physicians will not be expected to examine, prescribe for, or otherwise direct in health promotion, at these clinics of any persons except those coming under classes A. B. and C. This includes tonsils and adenoids, tuberculosis and child welfare clinics.

"The physicians of Kalamazoo and vicinity stand ready to conduct such public and educational clinics as from time to time seem desirable and also to aid in the care of the city's poor and permanently indigent in these clinics.

"Signed,

"L. H. Stewart,
"W. G. Hoebeke,
"L. E. Westcott."

Dr. Crum moved that the letter be sent to the heads of the various clinics, that they be given one month for charting and tabulation of patients and that if at the end of the month patient has no card indicating his or her status, the doctor refuse to give his services. Seconded by Dr. Pratt. Carried.

Dr. Stewart also read a letter that was written to the Battle Creek Sanatorium and College regarding the recent Clinic at Milwood School. Dr. Westcott moved that the letter be sent as read. Seconded and Carried.

Meeting adjourned.

GRAND TRAVERSE-LEELANAU CO.

Regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital on February 5, 1929.

The membership voted to request a District Conference at Traverse City in the early part of June during cherry blossom time. It was felt that a trip through the peninsula orchards would be a treat to our visitors.

The Secretary gave a report on the Conference of Michigan Secretaries which was held at Chicago. The report was apparently appreciated by all the members present.

Dr. H. B. Kyselka presented his series of colored lantern slides on Venereal Disease, which he is using for lay talks.

E. F. Sladek, Secretary.

Regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital on March 5, 1929.

After some discussion, the Secretary was instructed to answer the questionnaire from the Civic and Industrial Relations Committee.

The invitation from Wayne County Medical Society to the use of their club rooms in Detroit was approved. Thank you Wayne.

The speaker of the evening being unable to attend, President Inch called on all the members present to give a report of the most interesting case they had during the past month. Dr. G. W. Gauntlett presented a case of severe acute glaucoma following corneal ulcer and iritis; Dr. L. R. Way reported a case of psycerosis characterized by continuous air-swallowing; Dr. F. P. Lawton related his experiences with deep therapy X-ray; Dr. T. W. Thompson reported on a possible encephalitis lethargica.

The meeting adjourned at a late hour.

E. F. Sladek, Secretary.

LIVINGSTON COUNTY

The February meeting of the Livingston County Medical Society was held Wednesday, February

27th, at the Hotel Livingston at Howell. After a very splendid steak dinner, President Huntley opened the meeting and after the usual formalities he extended an invitation to the Society to attend the opening of the new unit at the T. B. Sanatorium. The name of Dr. W. E. Fawcett of the Michigan State Sanatorium was presented for membership and referred to the membership committee. Dr. Huntley then introduced Dr. L. D. Coulter of the State Department of Health. Dr.

Coulter talked at large upon the recent proposal of establishment of County Health Units, after which the meeting was thrown open to discussion. Upon the motion of Dr. H. L. Sigler a vote for the adoption for such a movement was postponed until the next meeting. The meeting was adjourned.

The men from this county are proving very enthusiastic in their support of these meetings, there being only two absent at this session.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

THE INFANT AND YOUNG CHILD—Its care and feeding from birth until school age. A manual for Mothers. By John Lovett Morse, M. D., Edwin T. Wyman, M. D., and Lewis Webb Hill, M. D., of Harvard Medical School and Children's Hospital, Boston, Mass. 12 mo. of 299 pages, illustrated. W. B. Saunders Company, Philadelphia and London, 1929. Cloth, \$2.00 net.

Mothers are evincing a more intelligent interest in the rearing of their children. They read and hear a lot about calories, vitamins, rickets and ultra-violet light. They are curious as to what it is all about and often in seeking for information they get mis-information. This little work is an authoritative work on the subject on the rearing of the infant and young child. It embraces the care and feeding from birth until school age. It is written in simple non-technical language and takes up the topics in which the intelligent mother is apt to be vitally interested. The pediatrician and the general practitioner will find it a very valuable aid in their professional work in the matter of educating mothers who are usually the nurses.

A HANDBOOK OF CLINICAL PATHOLOGY—Frank Scott Fowweather, M. D., M. Sc. Liverpool, with a foreword by Sir Berkeley Moynihan. 18 illustrations. P. Blackiston's Son & Co., Philadelphia, Pa. Price, \$3.00.

This little book contains a course of lectures on clinical chemical pathology delivered to senior students of the Leeds University Medical School. There are 15 lectures in all, including such subjects as "Acid Base Balance of the Blood," "Glycosuria and Diabetes," "Renal Function Tests," "Liver Function Tests," "Gastric Function," "Vitamins and Deficiency Diseases," "Ossification," "Calcification Calculus Formation," "Basal Metabolism Anoxemia." This work is a sort of pioneer in a subject that has not yet found expression in text books.

PEDIATRICS FOR THE GENERAL PRACTITIONER—Harry Monroe McClanahan, A. M., M. D., Professor of Pediatrics Emeritus, University of Nebraska; Member of the American Pediatric Society; Ex-President of the Nebraska State Medical Association. 230 illustrations. J. B. Lippincott Company, Philadelphia and London. Price, \$6.00.

The subject of pediatrics has become a highly specialized department of medicine, yet the general practitioner must always continue to be the first line of defense, so to speak, in children's disease. He is the one who, as a rule, first sees the child, and in a great many instances the condition yields to his ministrations. Complications in the course of illness constitute as a rule the work of the specialist. This volume of over six hundred pages has been written to meet a distinct field,

namely; diseases of children as usually met by the general practitioner. One of the features of the work is a chapter on the "Normal Human Infant from Birth to Adolescence." This chapter deals with both training and feeding. The work is well illustrated, printed in good clear type, and well indexed. There are convenient bibliographies at the end of the chapters for readers who desire to pursue the subjects more fully than are treated in the text.

A COMPEND OF DISEASES OF THE SKIN—Jay Frank Schamberg, A. B., M. D., Professor of Dermatology and Syphilology Graduate School of Medicine, University of Pennsylvania. Eighth edition, revised and enlarged with 126 illustrations. P. Blackiston's Sons Co., Philadelphia. 1012 Walnut St. Price, \$2.00.

P. Blackiston's Sons' Compendes are too well known to need any lengthy description. They are authoritative, concise accounts of medical knowledge up to the date of their publication. This little work on the skin is no exception. It deals with the skin conditions which are apt to be met with in the general practice of medicine. The only addition to the present work is a review of the treatment of syphilis of the nervous system. The illustrations are good and as informative as it is possible to have them in black and white. While these books do not and are not intended to displace the larger works on the subject, they have their place as convenient summaries or works of reference.

THE DIABETIC LIFE, ITS CONTROL BY DIET AND INSULIN—A concise manual for practitioners and patients. By D. D. Lawrence, M. A., M. D., M. R. C. P. (London) Chemical Pathologist and lecturer in chemical pathology. King's College Hospital. Fourth Edition with 12 illustrations. P. Blackiston's Son & Co., 1012 Walnut St., Philadelphia, 1928.

The author of the book brings the latest and most modern treatment of diabetes, by diet and insulin, within the scope of the general practitioner and the patient. By means of a very simple and accurate diet scheme, called Line-ration diet, he enables the general practitioner to start accurate treatment at once and enables the patient to arrange his diet so as to have a variety of foods without the complicated calculations of diets and food values, as has been known in the past treatment. Some chapters are written especially for the doctor, while still others are written so that they are readily understood by the patients.

The author gives a short history of the disease; compares the normal and the diabetic metabolism in a very interesting and thorough manner; dis-

cusses the symptoms of the disease, its causes and the effects of insulin upon it. The Line-ration diet is taken up very thoroughly and is presented to the reader in a manner very easily understood.

INTERNATIONAL CLINICS—A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, paediatrics, obstetrics, gynecology, orthopaedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Volume IV, Thirty-eighth Series, 1928. J. B. Lippincott company, Philadelphia and London.

This well known volume contains 25 chapters on medical subjects from the pen of leading members of the medical profession. It is a very excellent book on each of the chapters contains valuable information which makes it impossible to pick out any special article.

IMPERATIVE TRAUMATIC SURGERY WITH SPECIAL REFERENCE TO AFTER-CARE AND PROGNOSIS—C. R. G. Forrester, M.D., F.A.C.S. Consulting Surgeon, Chicago General Hospital; 8th Vol., extra cloth with 598 original illustrations. Price \$10 net. Paul B. Hoeber, New York.

This monograph is based on the author's experience of twenty-six years, during which time his work was confined entirely to traumatic surgery. Special care has been given to the immediate treatment and after-care of traumatic conditions. The treatment of fracture and other bone injuries naturally occupies a large space in the book. Besides line drawings and halftones the work is profusely illustrated with roentgenograms wherever a roentgenogram may be used to advantage. The work will therefore appeal to the Roentgenologist, as well as to that comparatively recently developed specialty industrial survey. A commendable feature is the emphasis placed upon the importance of clinical records particularly of fractures with many illustrative examples. Methods of examination of patients before general and also before local anaesthesia are described in detail.

ROENTGENOLOGY THE BORDERLANDS OF THE NORMAL AND THE EARLY PATHOLOGICAL IN THE SKIAGRAM—Alban Kohler Prof. Dr. Med. Wiesbaden, E-President German Roentgen Society. Rendered into English from the Fifth German Edition by Arthur Turnbull M.A., B.Sc., M.B., Ch.B. (Glasgow). Illustrated by radiographs and line drawings. Pages 550. Price \$14. William Wood & Co., New York.

Dr. Kohler's work was originally published in 1910, since which time it has gone through five editions in German; the present volume is a translation of the fifth German edition. The object of the book as expressed by the author in the first edition is that of adviser on those findings which exhibit or appear to exhibit slight and not particularly noticeable divergences from the normal anatomical picture. In other words it deals with the borderline of disease as revealed by the X-rays. This of itself should be enough to recommend any work to the medical profession and more particularly if it has been well performed. Kohler's work has been so long a standard with roentgenologists and so favorably known that nothing the present reviewer might say could add to it. The work, now that it is in such a splendid readable translation, will commend itself to a wider clientele, namely, surgeons and internists in the broadest sense. A member of our own State Medical Society, Dr. James T. Case, who has written the American preface says, "There is no other work in any language which contains all the facts pertaining to radiographic

interpretation so painstakingly and patiently collected, digested and organized for ready and easy reference as in this book." The reviewer feels that the work is perhaps the best one in existence on anatomy from the X-ray viewpoint. It bears the same relation to well made radiographs of the osseous and soft tissues of the body as the text books on anatomy to the actual dissections. The book is not as profusely illustrated with radiographic reproductions as one might expect. Positives even as halftones are unsatisfactory as compared with the original radiographs (negatives); consequently we have a didactic employment of line drawings which the author uses wherever they serve his purpose. The work is printed on a good grade of paper and in clear type. The format is such as to make a convenient as well as useful work of reference for the roentgenologist, internist and surgeon, as well as self-instruction for the physician who is in process of acquiring a knowledge of the subject.

MORE DIGGING NEEDED TO PROVE MAN'S PAST

A great need for further excavation at some of the famous sites where important discoveries of ancient men have been made was urged by Dr. Ales Hrdlicka, of the Smithsonian Institution, addressing a joint meeting of the American Association for the Advancement of Science and the American Anthropological Association at the annual meeting of both.

Scientists spend much time examining a few rare fossilized fragments of skulls and other bones and argue endlessly just how long man lived on earth and what sort of creature he was at first. Meanwhile the sites where the isolated specimens came from and which at any moment might yield more bones, that would settle the uncertainties and clear up deadlock arguments, are neglected. Men will argue and even quarrel violently, but no one undertakes the slow, uncertain, further labor," Dr. Hrdlicka pointed out.

For nearly twenty years, he said, not a trace of work has been done at the stream bed in Java which yielded the unique bones of the Pithecanthropus erectus, the oldest creature resembling man that has ever been discovered. This creature with a thigh bone like that of a man and a skull cap like an ape is estimated to have lived 500,000 years ago. Additional evidence is badly needed, Dr. Hrdlicka pointed out, to prove once and for all that the thigh bone and skull really belong to the same creature, and whether he was ape or human. But there is not even a supervision of the banks of the stream to salvage any specimens that might be washed out of the banks from time to time.

Less than half a day's journey from London, lies the site at Piltdown, where other important and much discussed relics were found. They consist of fragments of two skulls and a part of a lower jaw, and the being they are believed to represent has been named the Dawn man, or "Eoanthropus". He is held by some scientists to be almost as old and important as the Javanese individual. One scientist after another visits this accessible site, Dr. Hrdlicka said, but with the exception of one venerable retired British scientist, Professor Smith Woodward, no one in 15 years has done any work there to find more specimens. Yet, this is one of the most unsettled points of man's prehistory, because the fragments of the skull seem to belong to a being with a head form

and a brain far in advance of his time, while the lower jaw and the canine tooth are almost those of an ape.

In Germany, near Tubingen, at least fourteen fossil primate teeth were discovered back in the last century, Dr. Hrdlicka continued. These teeth were of the Tertiary geological period, and belong to anthropoid apes, but so near to human are some of them that the ape must have been close to a primitive man. But since that discovery there is not a report of any further attempt to find out more about these man-like ape creatures.

"The fallacies that have sprung up and flourished in connection with the inadequate specimens of oldest man are the sore spots of prehistory," Dr. Hrdlicka declared. "They retard the progress of man's knowledge of ancient man, and the arguments and uncertainties are taken by people not acquainted with the conditions as weaknesses of the science. Facts and speculations become confused, and so the value of the facts which have been firmly established regarding man's ancestry is diminished. There is urgent need for more sound labor in the field and less speculation."—Science Service.

CREATIVE PROCESS ANALYZED BY PSYCHOLOGIST

The scientist and poet employ essentially the same mental and emotional processes in creating a theory or a sonnet, according to Dr. Elliott D. Hutchinson of the University of Rochester. Dr. Hutchinson has concluded an investigation in England at the University of Cambridge in which he has analyzed the creative methods and practices of famous artists, authors, scientists, and musicians. Among those who informed him of their creative methods were such thinkers as Arnold Bennett, Bertrand Russell, William Butler Yeats, Eden Phillpotts, Aldous Huxley, W. Somerset Maugham, and Sir James Flinders Petrie. Early phases of the creative process are marked by an insistent restlessness and tension which may persist for months or years if the thinker is thwarted in creative expression, Dr. Hutchinson says. What comes first is a problem or puzzle involving discomfort. Then comes voluntary application with great effort. After this period without conscious thought, and finally a solution, the last stage being usually sudden. "Many creative ideas arrive when the individual is engaged upon matters irrelevant to his work, usually during a period of emotion or deep absorption in distracting events," Dr. Hutchinson argues. "On such an occasion, which is really a momentary period of mental dissociation, creative ideas seem to come in floods, most of them are fragmentary though clustered about one key-idea, many are discovered on the fringe of consciousness, and are irrecoverable when lost, and many involve a feeling of impersonality. The scientist in his creative mood resembles the artist. He waits days, perhaps years, sometimes gathering relevant facts, sometimes merely relaxing from labor. Then one day in a moment of forgetfulness an illumination the looked-for hypothesis, the desired generalization comes."

Too little is known about the mental and emotional process by which the world's new ideas are evolved, its art works produced, its inventions achieved, Dr. Hutchinson believes. The field has been a neglected one in psychological research.—Science Service.

DRUG ADDICTION DECREASING FEDERAL SURVEY SHOWS

Drug addiction in the United States is greatly decreasing, in the opinion of Col. L. G. Nutt, Deputy Prohibition Commissioner, Washington, D. C., in charge of narcotics.

Colonel Nutt so testified before the House Appropriations Committee this week, according to hearings just released. A survey made by him in all territory west of the Mississippi in which he interviewed state attorneys, police officers, field prohibition agents, federal judges, and docters, convinced him, he said, that the habit was becoming less and less common.

Colonel Nutt denied emphatically that prohibition of alcoholic liquor was increasing the number of narcotic addicts in this country.

"It is not true," he said. "The two don't go together. A man addicted to narcotic drugs will rarely turn to liquor, or vice versa. We have made a careful study of that through the Public Health Service.

"You will occasionally find a man who will take morphine and cocaine, but not one who takes morphine and cocaine and whiskey."

Nutt estimates that there are 25 big drug syndicates engaged in the traffic in the United States. He said that the cost of morphine in Boston was \$22.50 per ounce, when purchased wholesale in hundred ounce lots. By the single ounce it costs \$35 an ounce. To the trade, a dollar for one to four grains in cube form. The price in New York, he stated, was \$12 to \$16 an ounce, wholesale, and \$30 to \$35 an ounce in single ounces.

Dr. James Doran, prohibition commissioner, said that not only was drug-addiction decreasing, but that fewer and fewer young persons were becoming addicts in the last few years.

"Data—compiled and shown," he said, "that the age of the narcotic addict is increasing. The proportion of fresh addicts is lessening, the age of addiction increasing. Every other statement I have ever seen with respect to whether addiction is increasing or decreasing is an opinion, but this is a fact."—Science Service.

VOMITING OF PREGNANCY

John P. Gardiner discusses vomiting of pregnancy. He concludes that the vomiting of pregnancy is a self-limiting disease. Vomiting, as with yawning, respiration, urination and defecation, is a mixed primordial function. Menstruation is associated with an increased intestinal gradient and pregnancy is associated with a decrease, possibly the result of a substance given off by the chorion of the zygote. The time of greatest activity of the chorion corresponds to the time of the greatest frequency of the vomiting. Experimental work on dogs has shown that the pathologic changes induced by the vomiting of pregnancy are difficult to distinguish from those of inanition. The human being, because of the upright position, is the only mammal subject to the vomiting of pregnancy. The immediate cause of death is probably exhaustion. The value of the inverted ventral posture is that it separates the genital and intestinal tracts. The employment of sedatives is logical. Enteroclysis is safer and is a more rational guide to the amount of fluid needed than intravenous administration or hypodermoclysis. The inverted ventral method has been used with success in three cases.—Journal A. M. A.

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THE TREATMENT OF ERYSIPELAS WITH ERYSIPELAS STREPTOCOCCUS ANTITOXIN*

J. E. GORDON, Ph. D., M. D.**

D. C. YOUNG, M. D.†

DETROIT, MICHIGAN

The announcement of a new and apparently successful treatment for erysipelas demands more than the usual critical analysis. Almost every conceivable form of management has been advocated for this disease, based chiefly on the application of local remedies. Failures have been legion, and usually have ended in a return to the old method of iced compresses. Methods depending upon general or systemic measures have included nonspecific protein therapy, and the use of serums and vaccines. We have consistently failed to obtain appreciable results with antibacterial serums developed from antigens of varying sources, including strains of streptococci isolated from the lesions and blood stream of erysipelas patients. In 1925 Birkhaug¹ was impressed with the analogy between scarlet fever and erysipelas and influenced by the work of the Dicks² on the hemolytic streptococcus of scarlet fever, applied sim-

ilar methods to the study of the hemolytic streptococcus of erysipelas. He found the micro-organism to be immunologically distinct from the type involved in scarlet fever and from most other sources. He was able to obtain a soluble toxin³ from suitable broth cultures and with the toxin immunized horses. This horse serum was used in the treatment of 60 cases of erysipelas with really striking results⁴. In September 1927, Symmers and Lewis⁵ of Bellevue Hospital, New York City, reported 131 cases treated with similar serum and with equally favorable results.

An unconcentrated serum made essentially according to the method of Birkhaug

* Read before the section on Pediatrics, Annual Meeting of the Michigan State Medical Society, Detroit, Sept. 27, 1928. From the Herman Kiefer Hospital, Department of Health, Detroit.

** Dr. J. E. Gordon, graduate of the Northwestern University; and of the University of Chicago, Ph. D. in Bacteriology and Pathology; M. D. Rush Medical College; Medical Director, Division of Communicable Diseases, Herman Kiefer hospital, Detroit, Mich.

† Dr. Donald C. Young, graduate of the Detroit College of Medicine and Surgery. For the past three years Chief Resident Physician, Herman Kiefer hospital, Detroit.

was first used by us in 1926. The results were disappointing in that no real differences could be determined between the group of patients treated with serum and a control series having the usual symptomatic management.

A new serum was prepared by Parke Davis & Co., using both whole bacterial bodies and soluble toxin as antigens. It was concentrated by a process similar to that used in the preparation of diphtheria antitoxin, to give a potency approximately four times that of the original product. We deemed it necessary to increase the average dosage, in general to eight times the original antibody content. This serum has been used in the treatment of erysipelas since January, 1927.

METHOD OF INJECTION

Both the intramuscular and intravenous routes have been used. At times really remarkable results can be obtained by intravenous injection but the dangers attendant to the use of this method in the advanced age group, which includes the majority of erysipelas patients, outweigh the advantages. Anaphylactic phenomena in older adults have in our experience been definitely more serious than in young persons. For this reason we rarely use other than intramuscular injections and indeed serum intravenously is unnecessary in most instances. We reserve intravenous injections for patients with a demonstrated septicemia or in critical condition. If serum is given by vein, it is best to dilute it with 250 cc. to 500 cc. of physiologic saline solution, and to inject slowly by gravity. The intramuscular is the preferred route.

DOSAGE OF ANTITOXIN

Erysipelas streptococcus antitoxin, like scarlet fever streptococcus antitoxin, is standardized on the basis of the antitoxin required to neutralize one skin test dose of toxin. The skin test dose of toxin is the smallest amount of toxin that will produce, when injected intradermally, an area of erythema 1 cm. in diameter. Commercially, the product is marketed as one therapeutic dose and contains 500,000 neutralizing doses, 5,000 units, of antitoxin. That amount is in most instances insufficient. The reaction of the individual patient, and that depends upon the balance between infection and resistance, must in each instance determine the dosage. Two particular considerations constitute important guides. The one, common to all serum therapy, is the duration of the disease be-

fore institution of treatment. Patients receiving serum early respond most promptly. With erysipelas the most important factor is very definitely the part of the body involved. Infections of the body regularly require the most serum. Erysipelas of the extremities ranks closely, while facial erysipelas as a rule responds to one or two therapeutic doses. In any case, the antitoxin should be administered in excess rather than in too small doses. We ordinarily give 5,000 units when the patient is admitted to hospital, repeating at intervals of about 24 hours until the erysipelatous eruption is limited or subsiding, the edema subsided and the temperature declined to approximately normal limits. One therapeutic dose, about 10 cc., was sufficient in about one-third of our cases, another third required double that amount, while the remaining cases received up to 100 cc. The larger amounts were generally required for patients with involvement of the body or extremities.

EFFECT OF ERYSIPELAS STREPTOCOCCUS ANTITOXIN ON THE CLINICAL COURSE OF ERYSIPELAS

Possibly the most exact evaluation of the serum would have been attained by its use with alternate patients. Because of the great variation in clinical severity of erysipelas, such a plan would have included in the serum treated group many patients who would have experienced a favorably self-limited course, particularly those with milder facial infections and recurrent erysipelas. We chose to subject the serum to what we know was a far more rigorous test but one which is more difficult to evaluate statistically because of lack of comparable controls, a test which could be appreciated only by actual contact with patients on the wards. Those most severely ill, including all with an initial doubtful prognosis, were selected for serum treatment. The first named plan would in our opinion have led to greater contrasts, than the results which we obtained with selected cases. The general difference in severity of serum treated and control patients is well evidenced by the accompanying composite fever graphs which represent consecutively admitted patients of a given group.

This report deals with the 248 erysipelas patients admitted to Herman Kiefer Hospital during the calendar year 1927. Results based upon experience with the disease during certain seasons only, are liable to inaccuracy because of well recognized seasonal variations in severity. To an extent there are clinical variations from

year to year. The mean of several years experience, together with the greater accuracy conferred by larger numbers, will be required before a final opinion can be advanced.

The behavior of the fever is an important index of the general clinical course of erysipelas. Distinct variations in the curve are dependent upon the part of the body involved in the process. Chart 1 rep-

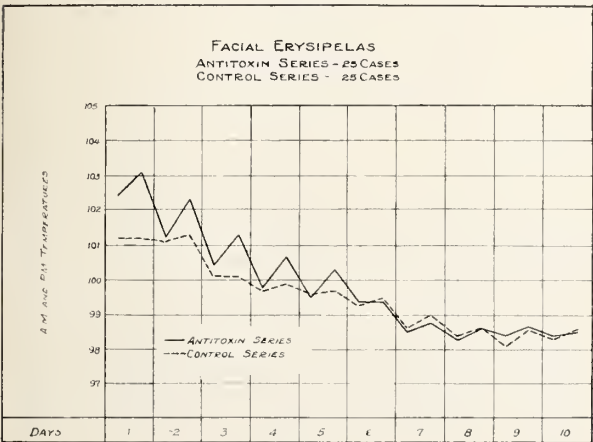


Figure 1

resents composite curves for consecutive cases of facial erysipelas. Serum treated cases had a well marked decline on the second day, while the fever in control cases was maintained at a fastigium. Relatively the progressive decline during succeeding days was much greater, so that by the sixth day both groups showed the same fever level, although the initial temperature for the serum treated patients was far higher. The same is true, Chart 2, of

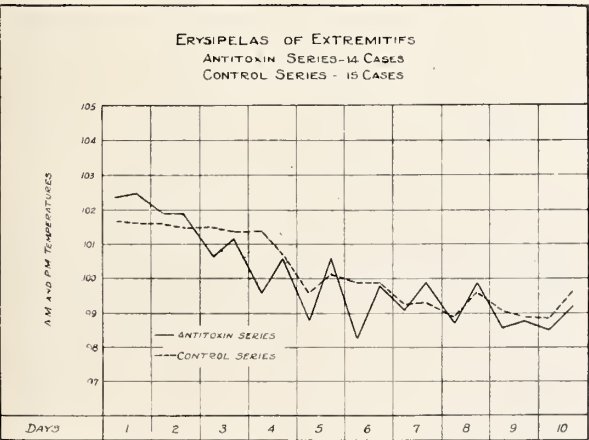


Figure 2

infections of the extremities. The curves are much less regular with erysipelas of the body, Chart 3, because of the usual added factor of pyogenic complications. Of greatest import is the fact that for the total 248 cases, the average duration of the

fever in days was actually less for the severe cases treated with serum than for the milder control cases.

The general clinical effect is more difficult to evaluate, but is generally favorable

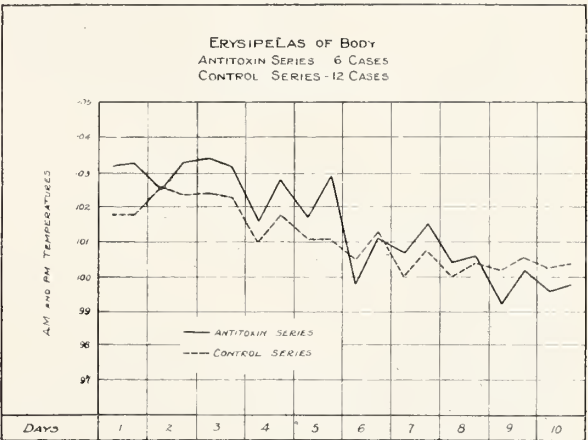


Figure 3

and comparable to that after the use of scarlet fever and diphtheria antitoxins. The toxemia is lessened and the patient's condition generally improved.

In an attempt to more accurately determine the effect on the local lesion the boundaries were marked with a soluble dye when the patient was first seen, and the spread each day determined by extending the markings. Forty patients had no extension of the lesion after injection of serum, after the first day it was limited in 11 more, an additional 12 after the second day. Two-thirds of the patients had no further spread after the third day. In general the total extension was not more than 10% of the area involved previous to injection of serum. Only one case of creeping erysipelas was observed in the face of serum therapy. Limitation of the lesion was followed rather rapidly by absorption of the blebs and edema, with fading of the erythema in the affected parts.

REQUIRED HOSPITALIZATION

Recovery from facial erysipelas is more rapid for patients receiving serum by approximately 40 per cent. Control patients required hospitalization for an average of 16.5 days, serum treated cases, although representing severe infections, only 10 days. The economic saving both to hospital and patient would on this basis alone warrant the use of antitoxin. Little or no difference in hospital days existed between the two groups if the erysipelatos process involved body or extremities. This is due not to the primary infection itself but to extended hospitalization demanded by ab-

scesses, which characterize these forms of erysipelas.

COMPLICATIONS

The most serious complications of erysipelas are subcutaneous abscesses developing immediately beneath the affected skin area. They vary in size from those of negligible proportions to extensive infiltrations of pus. The incidence of abscesses seems to be about the same whether or not antitoxin is used. The number of secondary pneumonias observed is too small to be significant. The frequency of serum sickness, 4.8 per cent, is of particular interest. Relatively few cases of erysipelas occur in children of school age, the group who are so commonly artificially sensitized to horse serum. Erysipelas is primarily a disease of infants and adults, few of whom are sensitized. The incidence of serum reactions after this serum is scarcely one-seventh that following diphtheria or scarlet fever antitoxins. The explanation would seem to rest in the type of person receiving the serum, for these products are prepared by similar methods.

RECURRENT ERYSIPELAS

The use of antitoxin does not provide results beyond the immediate illness. Of the control patients 11.7% had had previous attacks of erysipelas; of the serum treated patients, 14.5%. The percentage of known recurrences following the attack for which the patient was admitted was almost identical for the two groups, 6.8% in the control series, 6.4% in the antitoxin group.

MORTALITY

With any disease, the results of therapeutic measures must in the end be judged by their influence on case fatality. This is difficult with erysipelas. So extensive and varied are the pathologic conditions associated with the disease, that it is most difficult to eliminate the contributing factors and to deduce from the remainder an intelligent conception of erysipelas as a direct cause of death.

Case fatality moreover, depends to a large extent on the part of the body involved, whether it be facial, body or of the extremities, and upon the age of the patient. Deaths are most frequent among infants and in the older age groups. Comparing the case fatality rate for control patients and those receiving serum, the greatest difference is in the age group from one to twenty years. Young adults twenty to forty years of age had a fatality about one-half that of patients who were

not treated with serum. The difference was less marked with older adults. Infants under one year not only had the highest rate of any age but the infection was least influenced by serum.

One of the most significant features in this series was the fact that the greatest differences in mortality were apparent with those types of the disease commonly most exacting of life, erysipelas of the body and of the extremities, Table 1.

Table 1
CLINICAL TYPE OF ERYSIPELAS
Case Fatality Rate

	Facial		Extremities		Body	
	Cases	Fatality	Cases	Fatality	Cases	Fatality
Control	353	12.1	16	12.5	31	48.4
Total Cases.....	209	6.2	24	12.5	15	20.0
Antitoxin Treated, 1927.....	97	9.2	15	6.6	12	8.3

The number of cases observed, particularly of the body and extremities, is rather too small to form general conclusions. Perhaps the best indication of the results from antitoxin treatment can be deduced from a comparison of the case fatality for erysipelas of all forms during the past several years at this hospital, compared with the year during which antitoxin was used for the more severe cases. Conditions over the periods compared are much the same. For the five years previous to 1927, 887 cases were treated with a case fatality of 13.5%. During 1927, the rate for 248 cases was 7.6%, Table 2.

Table 2
ERYSIPELAS
Annual Case Fatality Rate

Date	Cases	Deaths	Per Cent Fatality
1922	154	14	9.0
1923	172	29	16.8
1924	162	17	10.5
1925	308	42	13.3
1926	91	18	19.9
Total 1922-26.....	887	120	13.5
1927 Antitoxin.....	248	19	7.6

SUMMARY AND CONCLUSIONS

During 1927, 248 patients with erysipelas were admitted to Herman Kiefer Hospital. One-half had the usual symptomatic treatment. Those most severely ill received erysipelas streptococcus antitoxin. Results obtained with the serum were sufficiently encouraging to warrant further observations.

If one may judge by the behavior of the fever, the effect on the local lesion and the number of days in hospital, the clinical course was apparently favorably modified by the use of streptococcus antitoxin.

The serum seemingly has little effect beyond the immediate illness. It does not af-

fect the tendency of the disease to recur. Complications, particularly abscesses, while numerically as frequent, were perhaps clinically less severe.

The relationship to the number of the deaths is difficult to determine because of the many and varied pathologic conditions associated with this disease. Nevertheless the case fatality for the previous five years

was 13.5%, during the year antitoxin was used, 7.6%.

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THE MANAGEMENT OF THE TONSIL PATIENT

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DETROIT, MICHIGAN

The tonsil operation is so frequent an occurrence that it has become many times a more or less perfunctory routine. This attitude does not reflect to the credit of the profession nor does it bespeak of the highest principles in medical practice. The profession has been wont to classify the tonsil operation as belonging to the group of minor surgical procedures. This fact has probably in great measure been responsible for the disrespect of the tonsil operation. However, minor or major, whatever the classification may be, the tonsil operation must be regarded by its very nature to be attended with much danger. Yet in spite of this it is not uncommon to obtain a history where the patient having presented himself with his own diagnosis has had his tonsils removed without further ado.

If we are to be honest with ourselves and with our patients, we must first be fully assured of the necessity of operation, and secondly we must employ all measures tending to the safety of the patient. Necessity of a tonsil operation as pointed out by Hastings¹ depends not solely on the examination by a laryngologist, but also on a complete study of the patient to determine all possible factors responsible for the invalidism, rheumatism, heart-trouble, colds or whatever it may be. Carefulness and discrimination will avoid a hurried and often a painful and useless operation.

In determining the necessity of a tonsil operation much can be learned from a study of the patient's complaint. This may have to do with some local disturbance such as sore throat, or some systemic condition as arthritis. It must be determined at this point whether the symptoms are in fact due to tonsillar disease or whether it might be due to some other source as sinusitis, dental caries, and so on. A careful examination of the nature of the complaint helps also in safeguarding the patient in the event of operation as will be shown later. Complaints such as the fol-

lowing are used by Cohen² as a positive indication for operation: 1, Recurrent tonsillitis; 2, attacks of tonsillitis followed by rheumatism; 3, attacks of tonsillitis followed by heart disease; 4, tonsils that cause difficulty in breathing and swallowing; 5, cases of otorrhea of six weeks' duration; 6, repeated attacks of earache in spite of normal drum; 7, history of quinsy; 8, diphtheria; 9, cases of chorea and arthritis when all other sources of infection have been investigated and treated without avail; 10 history of nasal hemorrhage in children. Quackenbos³ names as indications for tonsil operation also the following: 1, Hypertrophy associated with nasal hemorrhage or eustachian obstruction; 2, reflex cough due to tonsil tag; 3, nocturnal anuresis in the absence of an acid concentrated urine; 4, chronic otorrhea; 5, chronic nasal discharge with the elimination of the sinuses as the causative factor; 6, petit mal.

The study of the complaint should be augmented by a careful review of previous sickness. Inquiry regarding lues, tuberculosis, hemophilia, and diabetes should be made. In females it is important to inquire as to the date of menstruation. By doing this complications and severe hemorrhage can be avoided at the time of operation. The age question in regard to tonsil operations in the very young and also the older patients presents itself for solution by the physician. In my opinion, age in itself is no determining factor,

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There should be no more age limit for tonsil operations than there should be for appendix operations. Replies to Swain's⁴ questionnaire to a hundred leading pediatricians advised against delay because of age. There are very few cases however under the age of three years that require more than a simple adenoid operation. Pilot⁵ in his investigation found that the adenoid with its many folds and deeper crypts harbor larger numbers of bacteria, especially hemolytic streptococci, than do the tonsils. The removal of the adenoids has a most favorable influence not only post-nasally, but in the throat as well. The youngest tonsil patient I have operated on was an infant of nine months that was so completely filled with tonsillar and adenoid tissue, that respiration and deglutition was carried on with great difficulty. Cachexia was present and there were signs of impending acidosis. In this case an adenoid operation would not have been sufficient, and delay could have resulted in much harm. In regard to the aged, it is my practice, to be very conservative in advising a tonsil operation after the age of fifty years. Many of these latter cases are referred for operation because of some chronic complaint such as "rheumatism." Observers such as Kaiser⁶ have found that the removal of tonsils does not influence favorably the progress of this particular disease. It must be remembered, too, that at this age, there is a distinct atrophy of the tonsillar structures. When examined histologically, it will be found that there is a decrease in the crypts and surface epithelium. In respect to chronic diseases, it is a frequent experience of the laryngologists to have cases referred with the request that he determine whether the tonsils are the sole cause of the patient's disability. This is not an easy task, for in fairness to the patient all possibilities must be considered and evaluated and only then can a true measure be had of the part the tonsil plays. It is my opinion that the tonsil plays but a minor role as a focus of infection in the aged.

The examination of the tonsil patient should be complete and can be divided into (a) local, (b) general, (c) laboratory. The local examination can be done by the referring physician or more completely by the laryngologist. This part of the examination should include the nasal structures, i. e. septum, turbinates, and sinuses. The post-nasal region is best examined digitally, in children, and with pharyngeal mirrors in adults. The nasopharyngoscope

may also be employed to advantage. The mouth including the gums, teeth, and palate should be thoroughly investigated. The contour of the palate plays an important part in its effect on the nasal structures. A high, narrow arched palate may be entirely responsible for the nasal pathology. Examination of the tonsils must of necessity be thorough. The examination is not complete until a knowledge is obtained as to the condition beneath the surface. The use of pressure, tonsil inverters, or suction are helpful. The size of the tonsil is no criterion as to its pathology. The small, buried tonsil should always be considered with suspicion. This point is emphasized by Dawell⁷ who also advises the search for enlarged cervical lymph nodes.

The general examination is best carried out by the referring doctor who has the advantage of knowing the patient best. Examination can also be done by the pediatrician or the internist. Attention should be directed to the condition of the heart, lungs, blood pressure, and reflexes. In infants and children, more accurate attention to the lymphatic system is necessary. It must be remembered that the early years of infancy and childhood are what may be termed "the lymphatic age." It is during this age that there is present a generalized lymphatic hypertrophy. There is not only an enlargement of the adenoids and tonsils but there is also an enlargement of the cervical glands, mesenteric glands, Peyer's patches, and lymphoid tissue around the appendix. This latter is interesting from the standpoint of the relationship between tonsillitis and appendicitis. In the early years of life, the pathological entity known as status lymphaticus is most prevalent. It is the age, too, in which the thymus gland plays a most prominent part. The very fact that the majority of tonsil patients come to operation during the "lymphatic age" should serve to put us constantly on guard. Deaths are not infrequently reported due to thymic involvement. Thuisfield⁸ reports five such cases. Wolf's⁹ case report is typical. A well nourished child of eleven months was given a light anesthesia for a congenital cataract operation. Respiration stopped shortly after operation was begun, and this was followed by cardiac failure. Autopsy findings were negative, except for an enlargement of the thymus and the lymphatics. The lymphatic patient is easily subject to shock and acidosis. This is particularly so in hot weather.

This concurs with the observation by Lott¹⁰ that all children seem to have more shock and depression if the operation is done during hot, humid weather. This history of laryngitis stridulus should be taken as a warning of an enlarged thymus. Rooth¹¹ reports a case in which this complaint was so marked in an apparently healthy boy of eighteen months that he was hospitalized in preparation for a tonsil and adenoid operation. However before this could be done, he suffered another attack which proved fatal. Autopsy findings revealed a thymus of one ounce and six drachms, compared to the normal averaging two drachms. Fisher¹² reports two thymic deaths; in one case the gland weighed 37.8 drachms and the other a boy of ten years in which the gland weighed 30 drachms. No other pathology was found in these cases except general lymphatic hypertrophy especially of Peyer's patches. Blumer¹³ concludes from his observations that two classes of patients are subject to thymic complications, namely, simple or exophthalmic goitre, and patients with hypertrophied adenoids and tonsils. Gerstley¹⁴ feels that an enlarged thymus per se is no contraindication for tonsil operation. He reports a case with an enlarged thymus confirmed by X-ray diagnosis of a boy three years old, safely operated upon under ether anesthesia. He concludes that a careful history and study of each individual patient is necessary in determining the factor of safety. It is safe to say that many undiagnosed thymus cases have been safely operated on. H. P. Mosher, A. S. McMillan, and F. E. Motley¹⁵, report a series of nearly five thousand consecutive cases, between the ages of two to sixteen years. X-ray examination showed seven per cent of all cases had an enlarged thymus. It is now generally accepted that the thymus gland is an organ belonging to the period of growth and development. It reaches its maximum at puberty and then undergoes involution, but does not entirely disappear during life. An abnormally enlarged thymus readily responds to Roentgen therapy, and this is the treatment of choice before operation.

The question not infrequently arises as to how soon after an acute process, such as endocarditis, rheumatism, or tonsillitis can the tonsils be safely removed. In answer to this, one cannot follow any definite prescribed rule. Each case must be determined on its own merits. It seems reasonable, however, that the sooner the focus

of infection is removed, the better for the patient. Approximately two weeks is sufficient in most cases for the patient to build up enough resistance compatible with the operation. Lott¹⁶ advises against general tonsil operation within three months of acute respiratory disease. He bases his conclusions on observations of ten thousand cases.

A routine laboratory examination for tonsil patients is a factor not to be overlooked. A minimum requirement should be a urine examination, a coagulation test, and a hemoglobin test. Further examinations when indicated are Wassermann test, blood counts, cultures from nose and throat, and X-ray examination. The exact value of a coagulation test as a check for bleeders has been more or less in dispute. Nevertheless, it should be carried out routinely, for a delayed coagulation demands further investigation. The method employed at my office is to prick the finger and establish a flow of blood. A capillary tube of .7 mm. and two inches long is applied to the bleeding area and by capillary action the tube is filled. As normal blood does not clot under two minutes, the test may be started at two and one-half minutes. A piece of tubing is broken off and this is repeated every half minute until it is found that upon breaking the tube a long stringy clot is obtained. This gives the clotting time, which varies in the normal from three to eight minutes. It has been noted by Walsh¹⁷ that in chronic tonsillitis the white count is markedly increased. The findings in his series of two hundred cases were an average of 16,700 w.b.c. before operation, and 6500 after operation. Cultures are of importance in detecting contagion, and should be done within 48 hours of the operation.

Frequently there is an extended delay between the time of examination and the appointment for operation. In these instances, re-examination is necessary before operation is performed. Pulse and temperature should be taken on admission for operation. This is very important.

Once the decision to operate has been made, there is still much to be done for the comfort and safety of the patient. It may be advisable at times to postpone the date of operation until the patient's resistance is more fully established. The neurotics should be given sedatives; the anemic, iron; the undernourished, diet and tonics. Children with tendency to glandular hypertrophy respond very nicely to the syrup of iron iodine. The ultra-violet

radiation can be used with much advantage in many preoperative tonsil cases. The use of calcium lactate should be prescribed as a routine for its hemostatic action. The value of calcium lactate for this purpose has not been generally accepted. In my experience, it appears to have a distinct value. According to Hare¹⁸ the action of calcium lactate takes place in a few hours and lasts for several days. The average adult dose is twenty grains and six to eight doses are given three times daily. A prolonged feeding of calcium lactate will have the opposite effect, and decrease coagulation. This may account for the discrepancy in the results of various observers. The use of parathyroid gland with calcium in doses of 1/20th grain has been advised by such workers as Collip¹⁹ on the theory that the parathyroid increases the absorption of the calcium. Most pharmaceutical houses prepare this combination in either pill or capsule form. It has been my practice to give tonsil patients a printed list of instructions to be carried out before operation. This contains advice as to diet, catharsis, medication, etc. The value of these printed instructions cannot be overestimated in the avoidance of misunderstandings and in the carrying out of pre-operative orders.

The choice of anesthesia should be made at the time of the appointment for operation. The type of anesthesia depends, of course, on the individual merits of the case. As a general rule adults are advised a local anesthetic. The advantage of local over general for tonsil work cannot be denied by anyone experienced on the subject. Some of the advantages as enumerated by Sonnenschein²⁰ are as follows: First, there is either no nausea, or if there is any, much less than with general anesthesia. Secondly, there is the avoidance of aspiration pneumonia. Third, the time of operation is usually considerably shortened as compared with a general anesthetic particularly in adults. Fourth, there is usually less immediate discomfort in that the patient can take ice, fluids, etc., shortly after the operation, whereas with ether it is necessary to deprive the patient of these things for a considerable length of time. Fifth, there is a voidance of the ill effect that ether or chloroform may have upon the general system, such as cardiac depression, nephritis, or the induction of a coma in diabetes. Sixth, the swallowing of blood and the consequent vomiting are usually eliminated in that the patient is able under local anesthetic to expectorate the blood

that accumulates in the throat. For a more complete understanding of local anesthesia in tonsil cases the reader is referred to such works as King²¹ that contain not only a comprehensive treatise on local anesthesia but also include a supplement on the toxic effects of local anesthesia and the reports of various committees appointed by the American Medical Association to investigate the subject.

When the patient presents himself for local operation, it is my practice to give him at once two tablets of allonal. The purpose of this drug is two-fold. (1) It overcomes the fright and anxiety that accompanies many patients to operation. This drug acts as a ready sedative without at all interfering with the pulse or respiration. (2) Allanol because of its barbiturate base (allyl-isopropyl-barbiturate) acts as a prophylactic against the toxic actions of local anesthetics, particularly cocaine. Its action is quick, the hypnosis taking place from 10 to 20 minutes after ingestion. This drug is also quickly eliminated, 24 hours being necessary for its complete elimination. In European clinics as well as in this country barbitol is given intravenously in the advent of toxic reaction from local anesthesia. My suggestion is that the method of attack is prophylactically and not as a method of emergency. One-half hour later the patient is given hypodermatically a tablet of H.M.C. No. 1. This tablet contains $\frac{1}{4}$ grain of morphine and 1/200th of hyoscine. Hurd's²² observation confirms the synergistic action of the morphine and hyoscine (the latter being the same drug as scopolamine, the so-called twilight sleep drug). This preparation produces no marked change in heart beat or blood pressure. There is some slowing of the respiration, and within a short period after administration, the patient will be found completely relaxed and frequently somnolent. In obstinate cases, it may be necessary to give a second smaller dose of H.M.C. at a period of from an hour to an hour and a half after the initial dose. The patient having reached the somnolent stage is now ready for operation. Hurd believes, and I completely agree with him, that many of the deaths reported due to toxic action of local anesthesia are due not to the toxic action of the drug itself, but to the over stimulation of the sensorium as in fright and mental shock. The relaxation of the patient produced by the preparation herein mentioned, avoids this latter complication. Not only is the patient mentally at ease, but it will be found on

operating that the pharyngeal and laryngeal reflexes are not at all disturbing. Two drachms of one per cent apothecin without adrenalin is injected behind the posterior pillars and anteriorly in the region of the glossopharyngeal nerve. No cocaine is used in the throat because of danger of swallowing and absorption. No adrenalin is used because of its action on the blood pressure and the danger of secondary hemorrhage. A small swab of 10 per cent solution of cocaine hydrochloride is placed intra-nasally in the region of the sphenopalatine ganglion for a moment. This relaxes the soft palate. Inasmuch as the throat is relaxed, the operation can be done quickly with very little trauma or bleeding. The patient on being returned to bed usually falls into a sound and restful sleep. While Hurd sends his patients home in two or three hours, it is my practice to keep them under observation from eight to twenty-four hours. By this time the patient has completely reacted from the medication and can return home with his faculties unimpaired. My experience with this method has been over a period of eight years with exceedingly gratifying results.

In operating on children, the avoidance of shock is equally important. Children with their keen mentality frequently undergo much mental anguish that can in a large measure be avoided. The pernicious custom of fooling children when they are brought for operation is to be condemned. The nature of the operation should be explained, the benefits magnified, and the co-operation of the child sought. They should be told intelligently what to expect, and it is surprising how much easier it is for both patient and surgeon when this is done. In cases not so prepared, the child suffers mental shock not only at the time of operation, but manifests neurotic tendencies such as night terrors for a number of weeks after. In regard to the anesthetic, for general tonsil operation, it may be simple or as suggested by Gwathney²³ a quite elaborate preparation. I prefer a light ether anesthesia. It is safest and it is easiest. I do not use forced etherization as produced by foot pumps or electrical devices. I prefer that when the anesthetic is given, it should not be given to the point where the laryngeal reflexes are destroyed. The significance and importance of the light anesthesia in tonsil work is emphasized by the observations made by Meyerson²⁴. He made endoscopic examinations in a series of one hundred cases immediately following tonsil opera-

tions. In spite of the fact that many of the cases had a light anesthesia, in 79 of these cases there was found blood in the trachea and in the bronchi. Doctors Daily of Houston Texas, in report of one hundred cases at the St. Louis meeting, of the American Academy of Otolaryngology, examined endoscopically following tonsil operation confirmed the above findings. In cases of deep anesthesia 90 per cent showed blood in the trachea and bronchi. In light anesthesia the blood was swallowed and vomited. Lipiodol injections by the authors confirmed these clinical findings. Not only is a light anesthetic desirable from the standpoint of prevention of lung complications, but also in the detection of post-operative bleeding. In a completely relaxed throat, bleeding may be unnoticed but the return of reflexes and movement of the muscles may produce secondary hemorrhage. It is of course important when operating under light anesthesia that the surgeon develop a technic that is rapid and what is most important, thorough. Meyerson²⁵ reports that the lung tissue and smaller bronchial elements are temporarily damaged by an increased concentration and prolonged administration of ether. This produces an inability to expel aspirated material. The conclusion, therefore, must be self-evident. The ideal tonsil anesthetic must be of short duration and at the same time light.

The mere removal of the tonsils does not end the responsibility of the surgeon, until the patient is fully recovered and the assurance that no complications have set in. In order to avoid aspiration following the operation, the patient is placed so that he is resting on his abdomen with the head slightly dependent and the mouth open. This step should be taken immediately on the completion of the operation and not until the orderly gets there. If a light anesthetic had been used, there is of course no danger of a "locked jaw" or a "swallowed tongue." In order to hasten the reaction from ether so that emesis takes place in the operating room, re-breathing can be employed. This is done either by the use of carbon dioxide or by the simple contrivance of applying cold towels snugly over the patient's mouth and nose. This brings the patients back to bed very much awake and in turn not only shortens the recovery period but at the same time relieves the anxiety of the parents. A nurse should be at the patient's bedside until the patient is completely reacted. The post-operative pulse should be

taken in all cases every two hours. The color of the lips and conjunctiva must be noted and recorded at the same time. I have made this a hard and fast rule, for it is only in this way that post-operative hemorrhage escaping into the stomach can be detected. A sudden rise in pulse rate or blanching of the lips or conjunctiva calls for an immediate investigation in the operative field. The post-nasal region is the place of danger in children and must be rigidly inspected for suspicious bleeding. Dr. Shea advises that the adenoids be removed first and the tonsils secondly. In this way by the time the tonsils are removed any delay of bleeding from the adenoid region could be noticed.

The local case on return to bed is propped up with pillows so that he is resting in almost a sitting posture. This avoids congestion in the head with consequent bleeding. It also enables the patient to gargle if necessary and to take fluids without undue exertion.

It is my practice to give the patient on discharge a printed list of post-operative instructions. This includes a diet, and general instructions as follows:

1. Rest in bed two days.
2. Physic or enema on second day.
3. Ice collar to neck as long as comfortable.
4. Use medicines as prescribed.
5. Return to office for examination within a week.
6. Report any signs of bleeding.

The medication for children is neosilvol solution 25 per cent, to be dropped freely in the nose every two hours. If properly used this solution acts as a continuous bath to the denuded surfaces of the fauces and post-nasal region. Healing time is shortened and secondary infection and otitic complications are avoided. The local tonsil cases complain frequently of painful deglutition. The use of 15 grains of Bayer's aspirin dissolved in one-half glass of lukewarm water, as a gargle every two hours, is a specific for post-operative pain. Some brands of aspirin float on the surface of the water, and will not be as effective. In hypersensitive patients, the use of orthoform in $\frac{1}{4}$ grain lozenges is of much value. This is dissolved on the tongue as freely as desired. The combination of these two drugs should give relief in the most obstinate cases. There are many other remedies for post-operative pain. Their number is legion. Harkness²⁶, in a series of 1700 questionnaires to laryngologists, found the following drugs to be

most commonly used: Menthol, phenol, an da 15 per cent spray of cocaine. The ice collar is advised but not insisted upon. I think that the ice collar has become a fetish in rhino-laryngology. To insist upon its use when it distresses the patient is beyond reason. In the days of tonsilotomy with its free post-operative bleeding, there was probably an urgent need for ice applications. The dietary in the tonsil patient is a matter that very often receives but scant attention. A number of standard textbooks on dietetics give nothing on this important subject. By the very nature of the operation the patient if left to his own resort will deplete himself and prolong his recovery. The diet be rich in calories and easy to swallow. Frequent feedings are advised preceded by the gargle as directed before. The printed instructions contain the following information:

First day, (day of operation) use freely sweetened water or sweetened milk; also plain water or milk.

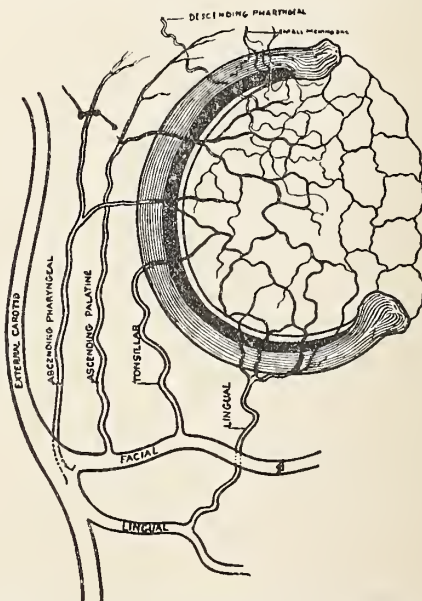
Second day, additional raw eggs, soft boiled eggs, milk toast, malted milk, jello.

Third day, custards, ice cream, cereals, broth.

Fourth day, as above.

Fifth to 7th days, full diet.

No acid foods (raw fruit, fruit juices, etc.) for one week. The patient should return by the seventh day for an inspection of the operative field. At this time, further information as to diet, ability to return to school, work, or other activities can be given. If there is an excessive amount of granulation, this can be treated



Blood supply to the tonsils—From Barnhill, nose, throat, and ear.

with the silver stick. If there are no complications, the patient is discharged, or if there is necessity, he is to return for further examination and treatment.

As it is well known, all cases do not make a simple, uneventful recovery. Complications are not altogether uncommon. The most frequent of these are, 1, bleeding; 2, earache; 3, pulmonic; 4, nasality; 5, lymphoid tags. Bleeding is probably the most frequent complication. It is usually arterial, for the venous bleeding is easily controlled. It may occur at any time within the first twenty-four hours until complete healing of the throat has taken place, which in some instances means at least three to four weeks. Dubney²⁷ believes that delayed hemorrhage, is due to separation of a slough. Undue exertion on a thinned-out blood vessel will cause the bleeding. It is my opinion that the post-operative granulations which are very vascular, may produce secondary hemorrhage from trauma. The control of hemorrhage necessitates an understanding of the blood supply of the tonsillar area. The chief blood supply of the tonsil is from the tonsillar and ascending pharyngeal branch of the facial. The branches of these vessels enter the tonsils by piercing the superior constrictor muscle at the lower pole. The descending palatine branches of the facial send twigs to the upper pole. The *arteria dorsalis linguae* gives off branches to the anterior pillar and not infrequently to the upper pole. These superficial vessels bleed easily and are easily controlled. However, it is the vessels deep in the lower pole that are as a rule responsible for serious bleeding.

There are a vast array of methods for controlling bleeding. It must be remembered that before applying any medication that the blood clot should be completely removed. The patient's head should always be elevated. The remedies that I employ with the best results are fifty per cent peroxide in ice water as a gargle, or insufflation of bismuth subgallate into the tonsillar fossae. Tilley²⁸ recommends the use of tannic acid. Green²⁹ advises the use of tissue juices. Pressure packs, either plain gauze or gauze saturated with hemostatic serum, can be employed. In my experience the use of sera is of more value before operation than after. In the use of sera one must think of the danger of anaphylaxis. Hypodermatically such sedatives as codia or morphia may be used in adults with good results. In some cases, the post-operative bleeding may be due to

tonsil tags, the removal of which will stop the hemorrhage. Crowley³⁰ injects two per cent novocaine with five drops of adrenalin to the ounce under the surface of the bleeding area. If the bleeding does not respond at once after employing these agencies, suturing or ligature should be immediately applied. In the event of the loss of much blood a saline or blood transfusion should be done. When there is a history of pre-operative bleeding, blood typing must be done before operation and the donor should be within easy call. It is remarkable how quickly a transfusion will improve the pulse, blood pressure, color, and reaction of the patient. Though not common it is sometimes necessary to ligate the external carotid artery for serious tonsillar bleeding. Whale³¹ reports a case in which this was necessary.

A very frequent complaint following tonsil operation is pain in the ears. This may be referred pain from the field of operation or it may be due to actual pathology in the tympanic cavity. The majority of the cases are of the first type, and require but an assurance that the complaint is not serious. Inflammation of the middle ear, on the other hand, must be treated with care and discrimination. It is fortunate that in spite of the trauma incidental to a tonsil and adenoid operation and the proximity of the eustachian tube to the field of operation, there are so few ear complications. The fact that the operation aids in ventilation and drainage of the middle ear, is probably the benevolent factor. It must be remembered, though, that during epidemics of upper respiratory disease there is greater danger of ear complications.

Pulmonary complications following tonsil operations are of relatively frequent occurrence. Fisher and Cohen³² report five cases of lung abscesses in their own series, and 63 cases from the literature. As to the possible causes of this complication they give, 1, type of anesthetic used (general); 2, aspiration of blood, mucous or other detritus from the field of operation; 3, infective emboli carried to the lungs, from the field of operation, through the vascular and lymphatic channels; 4, faulty technic, especially undue traumatism of the site of operation; 5, use of motor driven ether vaporizing apparatus; 6, antecedent causes either local or general.

A fairly common sequella of tonsil operations is a condition that may be termed nasality. The patient acquires a distinct nasal speech that he did not previously

possess. This is probably due to a reflex disturbance of the soft palate, though Levborg³³ believes it is due to inquiry of the soft palate. The mucous membrane of the soft palate, is continuous with the mucosa of the posterior nares, nasopharynx, and hard palate. The nerve supply is from the large posterior palatine nerve coming out of the posterior palatine foramen, and the accessory palatine nerve. In operating care must be taken to avoid injury to these structures. Many cases of nasality are due to favoring the soft palate in talking and swallowing. Some cases of nasality are present before operation and are due chiefly to rhinologic pathology. In the latter cases, the operation may accentuate the complaint and the parents aided and abetted by some "well-meaning" physician will diagnose the complaint as an incomplete operation. An explanation of the existing nasal pathology before operation will avoid this misunderstanding.

A frequent source of annoyance both to patient and surgeon is the appearance of the so-called tonsil tags. These occur in spite of the most thorough enucleation of the tonsils. Enormous tonsil beds are filled in due to the fact that "nature abhors a vacuum." This "filling in" process is accomplished by a proliferation of lymphoid and granulation tissue from the surrounding region and particularly the base of the tongue. In many cases, this tissue increases to large size but usually atrophies or may be shrunk by the pure silver stick. Ballenger³⁴ advises the use, for this purpose, of equal parts of tincture of iron and glycerine. In some cases there remains a good sized tag that becomes the prey of all who inspect the throat in the future. Microscopic examination of this tissue shows it to be free of glandular elements and to all respects entirely harmless. This does not mean that there are no tonsil tags due to incomplete operations. There are unfortunately many cases of these, but the profession must learn to discriminate. Some unfortunates give a history of a half dozen operations, a reflection on the credulity of the laity, and the zealotry of the profession.

Some complications while not immediately serious are productive of much anxiety both upon the part of the patient and the physician in charge. Unpleasant entries may take place in spite of the most careful attention to details that can be given. Two examples of this can be given as follows: Case one: H. S., girl, age 8 years was operated on for tonsils

and adenoids on July 11th. Temperature, pulse, and physical examination normal. No history of illness for period immediately antedating date of operation. The operation was done in the usual manner, and one hour after the operation the temperature had gone up to 100.5, by three in the afternoon the temperature had arisen to 103.00 but by careful sponging and nursing it descended to 100. The next day the temperature continued, fluctuating to 104 and accompanied by vomiting. The patient was examined by Doctors J. Bleier and S. Levin, without any findings as to the cause of the temperature. Everything was negative. The throat showed the usual post-operative reaction. On the third day the temperature and general debility continued and a blood culture was advised and taken by the Owen laboratory. The report the next day showed no culture in the blood and a white count of 10,200, 82 per cent polymorphonuclears. Red blood cells normal. On the fourth day there was a recession of the temperature and a hemorrhage from the left fossa. This was easily controlled and the patient showed some improvement until three days later the temperature mounted accompanied by pain in the right ear. Examination showed an acute otitis media. The drum was incised and a free serous flow escaped. The next day the temperature was normal, but there was pain and tenderness in the region of the right mastoid. Local treatment was prescribed and the patient from then on made an uneventful recovery. This case as can be seen encompasses most of the common complications. There was post-operative temperature; there was acidosis; there was post-operative hemorrhage; and finally an acute otitis. The possibilities in this case are that the patient was operated on during an incubation period of grippe or some other upper respiratory infection, or that the removal of the tonsils may have caused an increased amount of absorption from its own toxins. It is not uncommon to see a temperature of one or two degrees following tonsil operation and this is usually normal and is caused by saprophytic organisms that infect the operative wound. A gargle of 50 per cent peroxide at frequent intervals is sufficient to overcome this and remove the foul smelling membrane present in these cases.

Case two with unusual post-operative reaction was that of P. R., male, age three years, operated on June 23, 1928. There was nothing unusual in the preliminary

examination or during the operative procedure. The patient made apparently an uneventful recovery the first day, except for persistent vomiting, which started during the ether narcosis and continued at periods of several hours throughout the entire day. The vomiting was bile-tinged and the patient would not retain the slightest amount of fluid. Conditions the next day remained the same with the exception that the patient was in a much weakened condition. Solution of soda and glucose by rectum was not retained and sedatives for the gastro-intestinal tract were immediately vomited. Thirty-six hours the patient was suffering from an intense acidosis due to the lack of intake of nourishment and fluids. Dr. S. Levin was called in consultation and he immediately administered glucose intravenously and this, together with more success by rectal administration of alkaline solution, brought the patient out of danger. It must be remembered that an operative case is depleted by restriction in diet before the operation and also by cahtarsis. Add to this an ether anaesthesia and add a very limited intake of food and fluids within the next 24 or 48 hours and we leave a path open for acidosis. It is my practice to force a rich carbohydrate feeding as soon after operation as possible. This can be done by the addition of Karo syrup or cane sugar to the water or milk in the post-operative dietary. As has been previously mentioned, there is more danger of acidosis and shock when infants and children are operated upon in the hot, humid mid-summer days.

Other serious complications can be enumerated. Sepsis severe enough to threaten life, deep cervical cellulitis resulting in abscess, and thrombosis of the internal jugular vein, extending through the lateral sinus into the cavernous with resulting loss of vision, in one or both eyes, are cases reported by Gleason³⁵. This author believes too that post-operative complications are encouraged by over-treatments following operation.

This treatise, while not intended as being either inclusive or conclusive, brings to the front some of the problems that are frequently overlooked, shunned, or forgotten, in the management of the tonsil patient. We are fortunate that complications, though common, are at the same time not frequent. The fact that the mouth, gums, and throat, constantly harbor many pathogenic organisms, make it remarkable that complications are not more frequent. It

is necessary, as already mentioned, to be reasonably sure that the tonsil operation will benefit the patient. Gettinger³⁶ believes as do others that the tonsils have an important function and advises that we should not be so enthusiastic in the removal. His theories given for the functions of the tonsils are: 1, The tonsil protects the organism from bacterial invasion; 2, internal secretion; 3, tonsil has hemotopoietic function; 4, eliminative function; 5, aids in producing immunity. Interesting in contrast to this are the findings of Kaiser³⁷ whose conclusions are the results of observation of 1,200 operated cases covering a period of three years, as follows: 1, Operation caused relief of sore throat, head colds, and mouth breathing; 2, lessens chances of having discharging ears; 3, it assures some protection against glandular infection; 4, it does not affect infections of larynx, bronchi, and lungs; 5, it reduces the severity of measles and scarlet fever; 6, it lessens the incidents of diphtheria; 7, it does not influence chorea and rheumatism; 8, lessened the incidents of heart disease; 9, reduces mal-nutrition in children.

The fact remains that while we sometimes go to extremes, the value of the tonsil operation cannot be questioned. More carefulness in the direction of the tonsil patient speaks for discrimination in advising operation, better management of pre- and post-operative details and the avoidance of serious complications. In this manner, too, the tonsil operation can be brought to the high surgical plane it deserves.

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RADIUM AND ITS USEFULNESS IN THE TREATMENT OF (a) MALIGNANT DISEASE (b) UTERINE FIBROIDS AND (c) METROPATHIC BLEEDING OF UNKNOWN ORIGIN*

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The discovery of radium by Madame Curie¹ was officially announced to the world in a paper read before the Academy of Sciences of Paris on December 26, 1898, but it was not until 1910 that radium was isolated as an element and thus made available for therapeutic use.

Commercially radium was first obtained from pitchblende, later carnotite ores found in Utah and Colorado were utilized for its extraction because these ores contained a higher percentage of the element. However, even from carnotite the extraction of radium was expensive, requiring 11 tons of coal and 500 tons of chemicals to produce 1 gm. The element is now obtained almost exclusively from the Belgian Congo.

Radium belongs to that group of metals known as the alkali earths, its atomic weight being 226.45. In its preparation it is isolated as radium barium chloride, from which salt, the bromides, chlorides, sulphates and carbonates are prepared. The chlorides and bromides are soluble, whereas the carbonates and sulphates are insoluble. The various therapeutic applicators are made from the insoluble radium sulphate while radium emanation or radon, as it is sometimes called, is obtained from radium chloride.

An interesting point in passing, is that the loss of radium activity is so small, that it is spoken of in the terms of a period; one-half of the atoms remain after 1,680 years; one-fourth after 3,360 years, etc. Radium rays are invisible, but are known to be present because of the possession of certain physical and chemical properties, viz.: (1) the rays affect a photographic plate the same as light; (2) they excite phosphorescence; (3) they cause air and gases to become conductors of electricity; and (4) they generate heat.

The rays are of three distinct kinds; alpha, beta and gamma. The alpha rays are not considered here because these are

so weak as to be readily absorbed by a sheet of ordinary paper.

Beta rays are negatively charged electrons, represent 3.2 per cent of the total energy emitted and have a velocity of 300,000 k.m. per second. Soft, medium and hard beta particles may be distinguished. Beta rays are noted for their caustic properties. The hardest of this type of ray is absorbed by 1.2 cms. of epithelial tissue.

The most important of all, however, is the gamma ray, which constitutes approximately 5 per cent of the total energy and has a speed of 300,000 k.m. per second. Radium A, B and C are successive members of the gamma series and are produced by the decomposition of the element. When sufficient radium C has been formed, the gamma rays are emitted. Light, X-ray and gamma rays are measured in Angstrom units. The Angstrom unit is one ten-millionth of a millimeter. The length of gamma rays from radium C is so minute that it requires measurements in thousandths of an Angstrom unit. Gamma rays are extremely penetrating for living tissues; and are absorbed by every uniform substance. The rays of radium are superior to X-ray because they are of uniform length, while the X-ray bundle is always made up of a mixture of waves of different lengths.

Radium emanation or radon is recovered from solutions containing radium by means of vacuum pumps, can be placed in

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containers and utilized the same as radium. The chief advantages of radon are: (1) that the "seeds" may be implanted in tissues (such as the tongue) and do not require removal unless platinum covered. (2) If mislaid or lost, the misfortune is small as compared to the loss of radium element. Ordinary glass tubes are seldom used because they permit beta rays, which are quite caustic, to pass through. Platinum 0.4 m.m. or gold 0.6 m.m. are filters commonly employed.

The disadvantages are (1) rapid loss of radium energy and (2) an activity which is not uniform. The element, on the other hand, is always ready for use, requires only occasional measurements and emits a constant amount of gamma rays. The unit of measurement is the milligram of radium element. In practice the measurement is never by weighing, but by electroscopic comparison with a known standard; the international standard is kept in Paris, a subsidiary one is kept in the Bureau of Standards in Washington, D. C. Radon is also measured by its gamma rays, a millicurie corresponding to a miligram.

In reporting a radium treatment the amount of radium or radon used, the duration of the application, the character of the filter, the size and shape of the volume radiated, and the distance from the source should be stated.

FILTRATION

The filtration of undesirable rays is accomplished by the interposition between the radium and the tissue to be radiated of metallic and non-metallic screens. Where gamma rays alone are desired, primary and secondary beta rays must be filtered out. This may be accomplished by the use of lead, brass, silver, platinum or aluminum for the primary rays, and gauze, rubber or wood for the secondary.

TISSUE REACTIONS TO RADIATION

Ewing states that both the nucleus and cytoplasm of the cells are affected but in varying degree depending upon the constitution of the cell, as follows: preliminary hyperemia, cell liquefaction, and necrosis, the appearance of phagocytic cells, the growth of granulation tissue, the extreme overgrowth of lymphocytes and plasma cells and the healing by supple scar tissue. The tough cytoplasm of the squamous epithelial cell must resist far more than the rapidly growing embryonal cell. Regaud believes that in every tumor there are mother cells which are the only

ones capable of multiplication while others become differentiated and incapable of growth. His observations apply mainly to squamous cell carcinoma in which there is a strong tendency toward differentiation and quiescence.

In the transitional cell type of epidermoid carcinoma such as arises from the tonsil, there is little tendency toward differentiation. Mitoses appear uniformly throughout the tumor and the neoplasms are highly susceptible to irradiation. As a rule the more highly undifferentiated the tumor cells, the more susceptible are these cells to irradiation. In lymphomatous tumors, the very abundant nuclear material breaks up rapidly into granules which are distributed in the tumor fluids. Bulky lymphosarcomas melt down in a few hours without any sign of intoxication. Bacterial infection greatly stimulates the division of many tumor cells, but does not render the tumor more susceptible to radiation. Streptococcus infection is a real and frequent stimulus to the growth of the squamous cell carcinoma and cannot be controlled by radium. The infection seems to interfere with tissue repair induced by radiation, and destroys the normal resistance of the tissue while poisoning the host. Since tissues are not merely aggregates of cells, but are highly complex systems of related and interdependent structures, purely chemical or physical data cannot explain their behavior.

One of the most obvious of physical phenomena is an increased permeability of the cell membranes. Cell ferments appear to be generally inhibited by irradiation and cell metabolism brought to a standstill. Animal tissues are very complex and their reactions depend not merely upon changes in the predominating cell, but upon the integrity of the blood and lymph circulation and other intercellular relations.

G. Schwartz (3) in 1907 pointed out that susceptibility to radium is in direct proportion to the growth metabolism of the tumor cells.

In vitro the metabolism of the cells is very low, so that they become resistant to irradiation. We must therefore look for the explanation of cell changes not merely in the cell itself, but in the tissues and the body as a whole. Among tissue reactions which are most important are the changes in the blood vessels, viz.: initial hyperemia followed later by induration. The initial hyperemia seems to be merely a somewhat peculiar inflammatory process with vaso-

dilation, exudation of serum and leucocytes. There can be little doubt that these inflammatory changes initiate and determine to a large extent the changes in tumor cell stroma and blood vessels of the affected part.

The importance of vascular changes following irradiation in the destruction of cancer has not been fully appreciated. The nutrition of many tumor tissues is abnormal and highly unstable. In squamous and glandular carcinoma infiltrating cell groups are nourished by the fine vessels of the invaded tissue and these neoplasms are resistant. Most tumor cells grow under pressure and very slight increase of pressure is sufficient to strangle cell masses under many circumstances. Necrosis of transitional cells and of squamous cell carcinoma in cervical lymph nodes, by external irradiation seems explicable only as the result of strangulation of the blood supply, because when these cells rupture the capsule, no amount of irradiation will control them. That irradiation actually closes blood vessels, fine ones at first, then larger arterioles or arteries later, is attested by the vaculation and swelling of the endothelial cells beginning in the latent period. Helfelder (4) describes rupture of capillaries, hemorrhage, thrombosis, compression of capillaries by exuded lymphocytes and plasma cells, growth of new connective tissue, swelling of all the coats of the large arteries, later arterial sclerosis and the anemic condition of the radiation cicatrix.

Ewing (2) believes that practical irradiation acts very largely through vascular disturbances and that changes in the lymph flow probably play a similar role. The radiation effects are, therefore, direct and injurious upon tumor cells and indirect and destructive through secondary factors. It is a peculiarity of irradiation that its effects are slow of development but persistent through generations of cells. Degeneration is followed by regeneration. Murphy (3) has shown that the effects of radiation therapy depend much upon lymphocytic infiltration or as he calls it, the mobilization of lymphocytes. Autopsies on carcinoma subjects reveal a notable diminution or even a comparative absence of lymphatic tissue. Whether the initial impulse to attack cancer cells resides in the lymphocytes, or whether they gather mechanically about degenerating tumor cells through closing of the lymphatics, we do not know, but that this gathering is often followed by atrophy of tumor cells

and that this process may be stimulated by irradiation are facts of importance. The lymph node is the great barrier to the dissemination of carcinoma. Lymph nodes are radio resistant. After heavy irradiation squamous carcinoma cells may be found necrotic while lymph follicles persist or even multiply. This observation encourages the preservation of lymph nodes in the neighborhood of squamous cell carcinoma, when not invaded and heavy irradiation when they are invaded. This view is somewhat antagonistic to that of the surgeon who extirpates normal cervical lymph nodes whenever he finds them adjacent to a malignant growth he may wish to remove.

Plasma cell reaction in quite an excessive degree is one of the characteristic features of radiation repair; it is found particularly in the uterine cervix after caustic dosage. The fact that one never sees cancer cells growing out into a field of plasma cells indicates that these cells, or the conditions under which they grow, are highly antagonistic to the carcinomatous process.

Connective tissue represents the end product of all the cellular reactions when it may have very scanty bulk and few or no cells. Very cellular connective tissue develops in irradiated lymph nodes, muscles and subcutaneous tissue. New capillaries often develop in connective tissue, producing the ordinary granulation tissue of healing wounds. Fat tissue with the low metabolism of fat deposits are highly resistant to irradiation. Normal bone resists all but very heavy irradiation, large dosage producing growth restraint with ossification, necrosis and hemorrhage, these bones becoming hard and brittle and sometimes fracture spontaneously.

In the treatment of bone tumors, primary or secondary, one cannot rely upon much cellular reaction, but must proceed upon the principle of growth restraint.

Ginsburg (6) has reported an extreme case where nearly every bone in the body was the seat of metastasis, which under irradiation caused great thickening of new bone while the patient lived for several years.

Lymphosarcoma, angiomas, the germinal parts of the testicle and ovary, are more easily affected than other tissues. As a rule tumor cells are less tolerant than the tissue in which they are found and tumors in which the cells are of the embryonic type are more susceptible than the mature types of cells. In carcinomata of

the uterine cervix, the adeno-carcinoma is the most resistant; after this, the squamous cell, then the basal cell type the least resistant of all. The effect on uterine fibroids is largely an obliteration of the small blood vessels as mentioned above. It must not be forgotten, however, that radium affects normal as well as malignant tissues, the only difference being that some types of malignant tumors are more radio sensitive than normal tissues.

DIAGNOSIS

In the treatment of pathological tissues with radium an accurate diagnosis is extremely important.

The diagnosis of epitheliomata of the face, lymphosarcomata of the neck, etc., are simple and need not be considered here. Our principal difficulty is in the diagnosis of (1) carcinoma of the cervix or of the cervical canal, (2) carcinoma of the corpus uteri, (3) small uterine fibroids and (4) that class of cases which I have, for want of a better name, termed metropathic; this last class has often been designated "uterine fibrosis"—"metritis", "uterine insufficiency", etc., and implies changes in the uterine musculature giving rise to severe metrorrhagia or menorrhagia in which the exact pathological condition cannot be determined. Since these cases are associated with bleeding it might not be out of place to consider for a moment some of the causes of uterine bleeding in the menopausal years.

(1) Endocrinal.

It has been stated (Chalfont) (7) that the ovarian follicle initiates the uterine flow while the corpus luteum stops it. Excluding infections and malignant tumors of the ovary, and also ovarian cysts with twisted pedicle, there is little need to accuse the ovary as an etiological factor in excessive flowing in women at or near the menopause. The pituitary and thyroid have likewise been blamed for abnormalities in the menstrual flow; but these are more often factors in amenorrhoea than in menorrhagia.

(2) The most common factor is retained placenta or secundines, treatment of which will not be discussed here, also (3) ectopic gestation and salpingitis, which are purely surgical conditions. When a woman is past forty and bleeds profusely, either at her period time or between periods, the surgeon naturally suspects malignancy. It is imperative that this tentative diagnosis be either confirmed or disproven, then the method of

procedure is comparatively simple. In a suspicious cervix a biopsy will give the necessary information. Since I have been treating neoplasms with radium, I do not hesitate to do a biopsy upon any patient, using always, the cautery for removal of the specimen. In suspected carcinoma of the corpus, microscopic study of the curettings will reveal the pathological process. Many surgeons have written at length upon the danger of curettage disseminating the carcinoma to the fallopian tubes and the peritoneal cavity, but this has not been my experience, nor has it been the experience of other observers, among whom may be mentioned Chas. C. Norris. Norris reports two series of cases in which hysterectomy had been done; one with, and the other without, a dilatation and curettage, prior to operation; those in which dilatation and curettage had been done, followed by hysterectomy, showed a higher percentage of three-year cures than those in the other series without dilatation and curettage.

Uterine fibroids are usually easily diagnosed by bimanual examination. The diagnosis of uterine insufficiency, metritis or fibrosis or whatever one may choose to call this condition, is a more difficult problem. These patients suffer from severe menorrhagia or metrorrhagia, as well as nervous and other symptoms; dilatation and curettage reveal nothing abnormal; speculum inspection and bimanual examination determine nothing diagnostically positive; disturbed endocrinal conditions are sometimes held responsible, but there is usually nothing in the picture which is at all definite.

Premature arterial sclerosis has been given as a possible cause.

Theilhaber (8) has advanced the theory that the uterine musculature is unable to functionate properly due to the disproportion of connective tissue over muscular tissue in the myometrium. If the increase of muscle over connective tissue is abnormal the uterine wall loses its contractile power to such an extent that it becomes insufficient to control the menstrual period. Diagnosis must be made from carcinoma, abnormal endometrial gland hypertrophy, cervical or endometrial polyps, and uterine myomata. Retroversion of the uterus is occasionally a cause of excessive bleeding.

Abbe of New York is given credit for the first therapeutic application of radium in 1905, but precedence in developing this form of therapy belongs chiefly to the

French. The first important clinical report was that of Dominici and his pupils Cheron and Rubens-Dùval who in 1913 published results in 158 cases of carcinoma of the cervix. H. A. Kelly in 1915 published the first important report in this country on the use of radium in malignant disease. Regaud's work dates from 1909 and Proust of the Hospital Tenon has also treated many cases. The employment of mass dose of radium was first recommended by Kroeig in 1914. In this country Bailey, Kelly, Schmitz, Clark, Ward, Ransohoff, Healy and many others have been active workers in the field.

TREATMENT—GENERAL PRINCIPLES

Radium treatment requires (1) a definite knowledge of the physical properties of the element together with a thorough understanding of the technic of application; (2) an accurate knowledge of its physical, chemical and biologic effects; (3) a careful diagnosis of the pathological conditions to be treated; (4) the amount of tissue to be radiated. Radium is a powerful therapeutic agent and much harm may be done if its rays are permitted to act upon tissues other than those intended.

In malignancy, the size of the tumor, its extension to contiguous tissues, the type of cell, the grade of malignancy, the possibility of metastases, etc., must all be considered.

With fibroids, the general consensus of opinion is that only intramural myomas should be treated and these not larger than a four months' pregnancy. Further, a full dosage should not be given except to women in or beyond their menopausal years, in other words, a careful selection of cases should be made in order to insure good results. Fibroids other than intramural should be submitted to surgical procedure.

(4) The general condition of the patient should receive attention. A large dose of radium produces a severe reaction, and patients in poor physical condition should be placed in a hospital and be given suitable treatment before a radium application is undertaken; thus, acidosis should be relieved, anemia overcome, infections removed, etc. Patients with acute infections, such as salpingitis, etc., should not be irradiated. As reported in the literature, the common cause of death in irradiated cases is infection.

Much encouragement and satisfaction however, are derived from the treatment of carefully selected patients

with radium; in many instances this type of therapy is much safer and much more satisfactory than surgical procedures. In epithelioma of the eyelid the growth may be completely removed without resulting deformity. Formerly, the surgeon could offer no hope in inoperable carcinoma of the cervix. Since radium therapy has reached its present state of development, 16 per cent of five-year cures have been obtained in these unfortunate patients, and in those not cured, symptoms have been relieved and life prolonged. Many surgeons have given up radical hysterectomies entirely and treat all cases with radium. Lymphosarcomas of the neck, treated surgically, give 100 per cent mortality, while with radium the tumor melts away almost over night, and if no metastases are present at the time of treatment, life will frequently be prolonged beyond the five-year period. In intramural fibroids becoming submucous where bleeding has reduced the hemoglobin to such a low percentage that operation would be dangerous, the results of radium therapy are excellent; much better than x-ray because the action of the x-ray is too slow. In metropathic bleeding of unknown pathology, radium is a specific and here the results obtained approximate 100 per cent of cures.

In malignancy or fibroids associated with diabetes, cardiovascular disease, pulmonary tbc., etc., where surgery is contraindicated, radium finds another useful field.

Epitheliomata of the face are best treated with 30 to 50 mg. radium element screened only with adhesive plaster placed one cm. from the lesion, kept in position four to eight hours and repeated if necessary. If the neoplasm is on the eyelid, the conjunctiva must be protected by the interposition of lead or gold. Further, as compared with surgery, radium leaves no scar provided no ulceration exists at the time of treatment. Lymphosarcoma of the neck is treated with a radium pack, the needles screened with brass or platinum and rubber, 2000 to 4000 mg. hours are used, according to the size of the tumor.

Carcinoma of the lip is treated by cross-firing; 50 to 100 mg. of the element externally properly screened, and the same amount, properly screened, internally. Some discussion may arise as to whether surgery or radium is the better treatment for this neoplasm. My own preference is for radium, especially in the early cases, treating metastases to the glands of the neck later, if the necessity arises. It is

much easier to convince patients to submit to radiation than it is to induce them to have an operation.

In carcinoma of the tongue the writer prefers a combination of thermo-electric coagulation and radium needles or seeds. The growth is first removed with thermo-electric coagulation, then the needles or seeds are implanted in the stump; the same treatment is applicable to carcinoma of the buccal cavity.

CARCINOMA OF THE CERVIX UTERI

Many methods have been used, viz: (1) one massive dose; (2) repeated doses of 1200 mg. or more; (3) continued crossfiring over a period of five or six days. The treatment will vary to some extent according to the stage in which the carcinoma is seen. Early and borderline growths give the most favorable results. In advanced or inoperable cases with involvement of the parametrium, there may be some doubt as to whether irradiation should be attempted at all. In this connection Schmitz (9) states "that advanced cases should not be subjected to either radiological or surgical treatment." In cases not too far advanced, with the help of the X-ray, some favorable results have been observed, although Heyman reports 16.6 per cent of five-year cures in inoperable cases, with radium alone.

Advocates of the single massive dose report good results, but my personal preference is for one of the following methods: viz: (1) the method of Heyman and (2) the method of Regaud.

The method of Heyman is as follows:

- dilatation of the cervix and curettage.
- specimen taken for microscopic examination.
- application of 40 or more mg. radium element in the cervical canal.
- application of 70 or more mg. radium element to the external os for 20 to 24 hours. Repetition of this dosage one week and again three weeks later.

The method of Regaud, consists of placing two tubes each containing 6 mg. + of radium element in the uterus in tandem formation 6 mg. + in each lateral vaginal fornix and 13 mg. + against the cervix latterly. The radium is removed once daily for cleansing and replaced, but is kept in position for five or six days, so that the patient receives a total of approximately 6600 mg. hours. If the parametrium is involved X-ray is used externally.

Clark advocates a trachelectomy with the cautery in all cases of carcinoma of the cervix to be followed by the application of radium and in his hands better results have been secured than where radium was used without this procedure.

It might be interesting here to compare results obtained by radium with those secured by radical hysterectomy in cases of carcinoma of the cervix, basing the comparisons upon five-year cures in both instances. I append the following tables:

TABLE 1

Cancer of Uterine Cervix—Radical Hysterectomy—Absolute Cure (without deductions) after Heyman

Author	Number of Cases	Number Cured	Absolute Results %
Wilson	386	26	6.7
Wertheim	979	186	19
Mayer	545	107	19.6
Thaler	917	154	16.8
Von Jasche	121	25	20.7
Thorn	225	42	18.7
Lahrhardt	325	27	8.3
Staudé	93	17	18.3
Kroenig-Freiburg	117	4	3.4
Stoeckel	350	86	24.6
Doederlein	265	54	20.4
Zweifel	435	120	27.6
Bonney	160	39	24.4
Schmidt	53	14	26.4
Franz (Jena)	120	33	27.5
Franz (Berlin)	143	40	28
Bumm	234	67	28.6
Davis	46	8	17.4
Kroenig	79	19	24.1
Average in Clinics with 200 cases or more	5,024	905	18.7

Thus we have the surgical statistics from twenty clinics, from which the following conclusions may be drawn:

Total number of operations	5,024
Total number of five-year cures	905
Percentage of cures (all cases)	18.7%

And in addition, the following are given by the same author:

Total number of operations, classes I and II	3,659
Total number of five-year cures, classes I and II	35.6%
Operability	43.0%
Primary mortality	17.2%

Heyman has collected the following statistics showing the five-year results with radium therapy from seventeen clinics:

TABLE 2

Carcinoma of Uterine Cervix—Five-Year Results with Radiological Treatment

Author	Number of Cases	Recoveries	%
Schulte	198	28	14.1
Kehrer	129	36	27.9
Regaud	201	25	12.4
Doederlein	1,058	142	13.3
Kroeing	76	6	7.9
Menge	203	51	25.1
Heyman	500	112	22.4
Ward & Farrar	76	17	22.4
Healey	155	14	9
Wintz	415	71	17.1
Schmitz	103	15	14.5
Schwertzer	49	4	8.2
Clarke & Block	144	15	10.4
Seitz	58	12	20.7
Adler	58	14	24
Muhlman	31	5	16.1
Winter	48	4	8.3
	3,512	571	16.3

The majority of the cases have been treated with radium or radium and X-ray. Wintz prefers X-ray only. Two-thirds of cases treated were inoperable.

DEDUCTIONS

Total number of cases treated	3,512
Total number of five-year cures	571
Percentage of five-year cures	16.3%

And in addition, the following:

Total number of cases—classes I and II.....	960
Total number of five-year cures—classes I and II.....	335
Percentage of five-year cures—classes I and II.....	34.9 %
Operability.....	30 %
Primary mortality.....	2 %

It will be noted that two-thirds of these cases were inoperable, or to be exact 70 per cent; also no deductions have been made for patients untraceable, or those dying from causes other than cancer. An important point noticeable in comparing these tables, is, the difference in the operability rate; while the operability rate may differ with different surgeons or radiologists, it is highly significant that in the surgical cases the average rate was 43 per cent, while that in the radiological series was 30 per cent. This suggests the thought that perhaps a larger percentage of hopeless cases applied for radium treatment, because of a desire to avoid an operation. Aside from this point the comparison is as follows:

Total number of operations.....	5,024
Total number of radium treatments.....	3,512
Total number of five-year cures by surgery.....	18.7 %
Total number of five-year cures by radium.....	16.3 %
Total number of five-year cures—classes I and II—surgery.....	35.6 %
Total number of five-year cures—classes I and II—radium.....	34.9 %
Primary mortality surgical cases.....	17.2 %
Primary mortality radium cases.....	2 %

A very favorable comparison, insofar as the end results are concerned, but one must take into consideration the length of confinement in the hospital, the morbidity, and the difference in mortality rates. When one considers these factors, the evidence is all in favor of irradiation. It might be well to present statistics of radiological treatment at three different stages of the disease viz: the operable, the borderline, and the inoperable.

TABLE 3

Showing net five-year survival rates after radiological treatment according to the stage of the disease—Carcinoma of the Cervix—(Lane-Clayton—1927)

Stage of Disease	Method Used	Cases Treated	Number Alive	Net Survival %
Operable	Radium only.....	364	152	41.75
	X-ray and Radium.....	114	47	41.2
Borderline	Radium only.....	387	110	28.4
	X-ray and Radium.....	149	39	26.2
Inoperable	Radium only.....	904	114	12.6
	X-ray and Radium.....	337	36	9.5
Total	Total.....	2,255	498	

This table reveals that equally good results may be obtained with radium if the cases are received sufficiently early and secondly that the results, obtained with radium only, are superior to those secured with a combination of X-rays and radium.

For carcinoma of the cervix, my own statistics are as follows:

TABLE 4

Group 1—Early cases.
6 cases without recurrence 1-5 years.

TABLE 5

Group 2—Borderline cases.
11 patients. Three in which hysterectomy was performed following irradiation. Eight in which there has been no recurrence in 1½ to 5 years. All 11 have been traced and are living and well at the time of writing this paper.

Inoperable Cases. In this group the writer has been less fortunate, only 4 out of 30 were seen sufficiently early for effective irradiation.

TABLE 6

Inoperable cases of Carcinoma of the Cervix
30 patients.

- 4 too recent for tabulation.
- 7 unable to trace.
- Leaving 19 cases for study.
- 1 living without recurrence after 5 years.
- 1 living without recurrence after 24 months.
- 1 living without recurrence after 22 months.
- 1 living without recurrence after 18 months.
- Others lived from 9 to 30 months.

TABLE 7

Summary Author's Cases	
Carcinoma Cervix Uteri Treated with Radium Only	
Group 1—Operable.....	6 cases
Group 2—Borderline.....	11 cases
Group 3—Inoperable.....	30 cases
Total.....	47 cases
Percentage operability, including borderline.....	36.17 %
Living 1 to 5 years, 21 or.....	44.7 %

UTERINE FIBROIDS

As stated above, only intramural fibroids should be irradiated and these should not exceed in size a four months' pregnancy, and further, the patient treated should be in her menopausal years.

Clark and Norris give the following as contraindications to the use of radium, in this type of neoplastic disease.

- (1) Cases in which doubt exists as to the accuracy of diagnosis.
- (2) The presence of intraperitoneal lesions other than myomata requiring surgical intervention.
- (3) Rapid growth.
- (4) Fundal carcinoma.
- (5) Pressure symptoms.
- (6) Softening or degeneration of the tumor.
- (7) Inflammatory lesions of the adnexa.
- (8) Submucous tumors
- (9) Young patients.
- (10) Marked anemia out of proportion to the symptoms or clinical findings.
- (11) Obstructing tumors or malformations which prevent the proper application of radium.
- (12) Radiophobia.

Thus it will be seen that myoma cases must be carefully selected in order to insure good results. The tumor disappears slowly, requiring months or even years, but the results in selected cases are excellent. Howard Kelly has said, "He who would give his patient the same consideration he would his wife or sister, must place radium first in the treatment of fibroid tumors." When we compare the mortality of hysterectomy (2 to 5 per cent) with radium therapy which is 0.18 per cent, and consider the excellent results obtained by the latter in selected cases, there is little doubt as to the best method of treatment.

The effect of radium upon the fibroid uterus is primarily on the blood vessels of

the endometrium, causing an endarteritis, and secondarily on the ovaries. Twelve hundred to twenty-four hundred mg. hours, using two tubes containing 50 mg. each, in tandem formation, will usually produce permanent amenorrhoea, with reduction in size of the tumor.

The patient may have one or occasionally two periods following irradiation, depending, to some extent, upon the proximity of the application to the menstrual epoch. If the radium is introduced immediately following a period, the likelihood of that patient having another period is small. In rare instances the treatment may require repetition and occasionally a patient of this group may need a myomectomy, but this is unusual. (In my series, 1 in 32 required hysterectomy). In women of the child-bearing age myomectomy is the treatment of choice, for radiation in young women should be done with great caution.

The author has treated 33 fibroids with the following results:

Unable to trace	1	
Hysterectomy required in	1	
Mistaken diagnosis in	1	(Ovarian fibroma)

leaving 30 cases for study.

Of these, twenty-seven had no period, and one had two periods. All but one have recently been examined by the writer and all of the twenty-seven have shown uteri reduced in size; in eighteen the uterus is now of normal size.

A statistical comparison of the results obtained by radium and surgical procedure follows:

TABLE 6

Clark and Norris, radium alone			476 cases
Cure in 96%. 3.7% required operation—no mortality.			
Taussig 1,100 cases (Collected) Cure in 95.5%—no mortality.			
Hysterectomy—			
Deaver	750 cases	mortality	1.75%
Hildebrandt	195 cases	mortality	1.54%
Wachenfeld	225 cases	mortality	1.75%
Tracy	100 cases	mortality	2.00%
Moeller	700 cases	mortality	2.14%
Ott	480 cases	mortality	2.50%
Hewitt	100 cases	mortality	2.00%
Total	2,550 cases	average mortality	2.24%
Myomectomy—			
Mayo Clinic	750 cases	mortality	0.75%
Bonney	100 cases	mortality	1.00%
Hewitt	22 cases	mortality	0.00%
Total	872 cases	average mortality	0.87%

The treatment of uterine insufficiency is similar to that of fibroids and the dosage is approximately the same. The writer's experience with the treatment of metropathic bleeding of unknown origin is limited to 18 cases and his results are as follows:

TABLE NO. 7

Metropathic Bleeding of Unknown Origin	
2 unable to trace.	
In 2 no symptoms after 6 years.	
In 2 no symptoms after 5 years.	
18 cases:	
In 7 no symptoms after 4 years.	

In 1 no symptoms after 3 years.
In 1 no symptoms after 2 years.
In 2 no symptoms after 1 year.
1 case given 600 mg. hours radium three years ago has recently been delivered of a healthy baby.

The writer has used radium in a wide variety of cases as shown in the following table:

TABLE NO. 8

1 carcinoma of the clitoris—	recurrence after 5 years.
1 carcinoma of the vulva—	no recurrence after 3 years.
1 carcinoma of the vagina—	no recurrence after 3 years.
1 carcinoma of the nose—	no recurrence after 2 years.
1 carcinoma of the oesophagus—	died after three months.
2 carcinoma of the breast—	recurrent—1 lived 14 mo.—1 15 mo.
1 epithelioma of the face—	no recurrence after 5 years.
1 epithelioma of the face—	no recurrence after 3 years.
1 epithelioma of the face—	no recurrence after 2 years.
1 carcinoma of the lip—	no recurrence after 5 years.
1 carcinoma of the tongue—	no recurrence after 5 years.
1 carcinoma of the tonsil and pharynx	died after 8 months.
1 carcinoma of the Buccal cavity—	no recurrence after 1½ yrs.
1 carcinoma of the Buccal cavity—	died after 2 years.
1 carcinoma of the eyelid (advanced)	died after 2 years.
1 carcinoma of the eyelid—	no recurrence after 2 years.
1 carcinoma of the lower jaw and buccal cavity—	no recurrence after 1½ years.
1 lympho-sarcoma of the neck—	no recurrence after 4 years.
1 lympho-sarcoma of the neck—	lived three years without recurrence and died of pneumonia.
1 sarcoma of the ear—	no recurrence after 4 years.
3 carcinoma corpus uteri—	no recurrence after 3 yrs. in 2 cases.
1 died after 2 years—	cause unable to determine.
1 sarcoma of the pubic ramus—	no recurrence after 5 years.
1 epithelioma of the skin over mastoid—	no recurrence after 5 years.
1 sarcoma of the femur —	died after amputation by another surgeon.
1 exophthalmic goiter—	L. & W. after 6 years.

SUMMARY

It is no longer necessary to do a hysterectomy for carcinoma of the cervix. The Wertheim operation, or any other type of radical hysterectomy, carries too high a primary mortality to justify its use when equally good, if not better, results may be obtained with radium with its low primary mortality and its lower morbidity.

(2) In intramural fibroids in women of menopausal years radium is the treatment "par excellence". In other myomata complicated by diabetes, pulmonary tuberculosis or cardiovascular disease, radium may be used.

(3) In metropathic bleeding at the menopause due to uterine insufficiency metritis, or fibrosis, radium acts as a specific.

(4) In lymphosarcoma of the neck without metastases radium is the treatment of choice.

(5) In epitheliomata radium produces better results than surgery.

(6) In carcinoma of the tongue or buccal cavity thermo-electric coagulation, followed by implantation of radium needles or seeds, gives good results.

(7) In carcinoma of the lip there may be some discussion as to whether radium or surgery should be used, but the ureter's preference is for radium.

(8) And finally it is the author's opinion that radium should constitute a part

of every surgeon's equipment and should be considered an adjunct to, rather than a competitor of surgery.

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DISCUSSION

Dr. W. R. Clinton: Dr. Hewitt spoke about Dr. Regaud's technic—how much atresia of the vagina follows the treatment?

Regarding X-ray treatment combined with radium in the inoperable cases, there is usually marked toxemia; the patients have severe nausea, vomiting and diarrhoea and lose resistance which they never recover. The majority of our cases did not die of liver metastasis but died of uremia due to obstruction of the ureters in secondary glands at the brim of the pelvis. Radium, we think, is the best treatment for carcinoma of the cervix but we must extend our statistics longer than the five-year period. We had two patients in 1916 on whom we performed hysterectomies followed with radium treatment, who have died—one in 1926 and one recently from metastatic carcinoma.

Dr. J. P. Pratt: This valuable paper merits considerable discussion. I want to state briefly our reason for treating cancer of the cervix by radium, later hysterectomy, and still later deep X-ray therapy. Dr. Stevens has just spoken of the classification of cancer of the cervix with reference to the type of cell. He emphasized that these various types show a different susceptibility to radiotherapy. A few years ago a patient came to this city from a clinic where cancer of the cervix is treated by radium exclusively. She had been told that sufficient radium had been given. However, we performed a hysterectomy. When the specimen was examined cancer cells were still present, some of which showed mitotic figures. The nests of cells were surrounded by considerable fibrous tissue, but even so, they were a potential source of danger. Two other such experiences have led us to believe that it is difficult to determine the exact amount of radium required in all cases. Therefore, a simple hysterectomy offers another factor of safety.

Dr. S. E. Sanderson: Three therapeutic methods must always come in for consideration when a

patient with carcinoma of the uterus presents herself to the physician, surgery, X-ray, radium. In various clinics, choice in procedure will usually follow maximum skill in the method or combination of the methods chosen. The skill of the physician may determine the method. In the early days of surgery for appendicitis, Ochsner (Chicago) said, "If you have a good surgeon, let him operate. If not, use ice and trust to God."

Some of the German clinics which were formerly surgical are using deep X-ray therapy in their cases of cancer of the uterus, followed by panhysterectomy. In many of these cases proven before operation by biopsy to be malignant, the tissues taken out at operation fail to show any cancer cells; which proves in these cases deep X-ray therapy has destroyed the local malignancy. Surgery in this connection should be used only in expert hands.

Between X-ray and radium the chief difference is one of therapeutic localization. The X-ray has a wider range and is useful in holding back metastasis while radium may conveniently be placed next the malignant growth or imbedded in it. In either event use enough; small doses are disastrous. One would know his dose and use enough. I believe this cannot be stressed too frequently.

Dr. R. H. Stevens: I should like to say just a word in regard to the treatment of cancer of the cervix. Dr. Hewitt has presented quite an array of statistics of more or less value in showing the general trend of experience in the large clinics in radiation and surgical treatment of cancer of the uterus. Some statistics of surgery in early cases are fairly good and others very bad. The trouble is most of the statistics are based on insufficient and inaccurate details concerning the type of cancer that has been dealt with when selecting the method of treatment. Then, too, the technic of radiation treatment has varied a great deal.

Dr. Hewitt stated the well-known fact that cancer cells are more sensitive to radiation at or near the time of division. It is also known that certain types of cells are more radio-sensitive than other types, though there are exceptions to this rule.

In a general way the adult more highly differentiated cell is less radiosensitive than the less differentiated or more anaplastic type. As Broders has shown, the less the differentiation in the cell the higher the malignancy, the more the tendency to metastasize; and Regaud and his school have demonstrated that the higher the grade of malignancy the more radiosensitive it is. Martzloff's grading corresponds with Broders fairly well, though the former has three grades and the latter four. For comparative statistical purposes Broders grade 1 and 2 might be put together and his 3 and 4 compared with Martzloff's 2 and 3 as Healy has done. Then if we deal with three grades only we might select the treatment somewhat on this basis, namely, Grade 1 (Broders and Martzloff) which is not common and in which the adult, more highly differentiated type of cell greatly predominates, is a local growth when early, has not the tendency to metastasize and is consequently much more benign. Early growths of this type give the high percentage of five-year cures from surgery.

Grade 2 (Martzloff and including Broders 2 and 3) is much more common and is quite malignant; is much more radiosensitive and much less amenable to surgery.

Grade 3 (Martzloff and Broders 3) is most

malignant, almost 100% fatal with surgery and 40% to 60% curable for five years with radiation.

They should not therefore ever be operated but should be left to radiation.

Therefore, it is important to first secure a section and grade it before beginning treatment. But here we meet with some difficulties too, for Martzloff has shown that only about one-third of the biopsies made correspond accurately with sections made from the whole uterus when it is removed later.

We are devotees of Regaud's technic in radiation treatment, some of the points of which are as follows:

1. Care in preparation of the patient to remove as much infection in the vagina and cervix as possible before radiation, as infection makes for radio-resistance.

2. The use of radium heavily filtered through platinum over a long period of time in order to radiate all the cells during their period of mitoses when they are more susceptible.

3. The addition of deep X-ray therapy to radiate parts of the pelvis not sufficiently radiated by the uterine and vaginal radium applications.

Dr. Alexander Campbell (Grand Rapids): I want to express my appreciation of the opportunity of hearing and discussing Dr. Hewitt's very excellent paper and have tried to select four or five of the most important points that I believe he desired to set forth in his presentation.

The main one is that so far as we have knowledge of the treatment of cancer of the cervix, radium properly administered is preferable to surgery in practically every case where any treatment is indicated.

Dr. Hewitt's reasons for this opinion are based on the fact that surgery has a high primary mortality, approximately 17 per cent. A high percentage of the cases following surgery die within the first year.

Radium has a minimum mortality less than 25 per cent, and the five year cures following radium show almost as high a percentage as that following surgery.

I believe, however, that occasionally a very early case who is a good operative risk may have a better result from radical surgery, and by radical surgery I mean, a panhysterectomy, wide removal of one-third or one-half of the proximal portion of the vagina, dissection of the parametrium and the removal of the invaded glands. If surgery is resorted to it should be the most thorough and radical type of surgery and I believe that many operations for cancer of the cervix are being performed which are not sufficiently radical and which are, therefore, harmful to the patient.

The patient who is to be treated with radium for carcinoma of the cervix should receive very careful pre-operative care, in fact the same care as if she were to be submitted to radical surgery.

A test for renal function should be made and a blood transfusion is frequently indicated.

Following an irradiation the patient should be either gotten out of bed very soon or placed in a posture favorable for genital drainage.

Dr. Ward of the Woman's Hospital of New York City advises a very careful follow up of

all his patients treated with radium and makes a gynecological and speculum examination every month. I desire to accentuate the importance of this follow-up system.

Concerning fibroids I believe that the majority of cases should be treated by surgery, the mortality from which is minimum as shown by Dr. Hewitt's personal records and by the statistics which he has shown from the work in other clinics.

I want to make a plea for the safe-guarding of the child-bearing function in women and to bring out the fact that children born of women who have received radium treatment have a tendency to malformation, mental deficiency and other abnormalities, therefore, I feel that surgery is preferable to radium in the management of most fibroids that require treatment.

I believe that myomectomy is a very valuable procedure in many cases of fibroids of the uterus, and all obstetricians of experience know that many children have been born following myomectomy.

Concerning the so-called functional uterine bleeding in women, I agree with Dr. Hewitt that radium appears to have achieved its greatest success, however, in my own personal experience, I have had to perform hysterectomy in some cases where radium failed.

The very extensive and comprehensive statistics which were shown by Dr. Hewitt are to me a little confusing but I am sure that he has succeeded in establishing the fact that at the present time radium is the modality of choice in the treatment of cancer of the cervix, because of the low mortality which attends it, because of the minimum amount of discomfort it causes the patient and because the latest statistics indicate that it will prolong the lives of the unfortunate victims with as much certainty as can be accomplished with the most radical surgery.

Dr. Hewitt (closing the discussion): I wish to thank all the men for entering into the discussion of this paper. Dr. Campbell spoke of the surgery of fibroids. There is little question that surgery in fibroids is the best treatment before the menopause, especially myomectomy in younger women. Dr. Sanderson brought out the grading of cells. I have all that definitely written down in my paper but I didn't want to tire you by reading it all. The higher the malignancy the more susceptible is that tissue to radiation; the exact opposite to surgery. Dr. Pratt brought up the question of hysterectomy following irradiation—an important point—but in the case he mentions, I am inclined to believe his case was insufficiently irradiated. Small doses of radium will cause cancer cells to grow, rather than cause retardation of growth. The grading is very important.

Dr. Clinton's question—the difficulty of operation after radium: with cancer of the cervix, if the hysterectomy is to be done after irradiation, it should take place within three weeks, otherwise there will be many adhesions and much scar tissue.

SOME ESSENTIALS IN THE TREATMENT OF DIABETES MELLITUS

LEONARD F. C. WENDT, M. D.

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Our object in the treatment of diabetes, as with any other disease, should be to do our patient the maximum of good with a minimum of harm. We should try to prolong his life, and make life as easy, pleasant and agreeable as it is possible for us to do. In other words we should try to make life as normal as possible. The diabetic has sufficient hardships and deprivations of his own, which we should do our utmost to minimize; we should help him to maintain his place as a functioning individual in society.

With this object as our ideal, there are several outstanding factors concerned with the proper treatment of such a case. The first essential is an adequate diet; a diet that contains a sufficient number of calories to supply the bodily needs for growth, work, and repair. Such a diet must be appetizing, wholesome, easily procured and prepared. It must meet, within reason, the patient's likes and dislikes.

The second factor is to supply sufficient insulin, either by injection or from the patient's own pancreas, to enable him to utilize this necessary amount of food. More simply stated, we must give the patient enough fuel, and we must see that he is able to burn it. Insulin may be given before one meal once a day or it may be given before each meal and a dose may also be required at midnight. It is usually given 15 minutes to a half an hour before the meal.

I have thought that cases of diabetes that were more or less resistant to insulin did better and required less insulin, when it was given at a greater interval before the meal. Insulin dosage should be taught and given in units and not by the cubic centimeter measurement on the syringe.

There are as many opinions regarding what constitutes a proper diet, as there are clinicians treating diabetes. In the main, diets fall into one of the three following classes:—First, a low carbohydrate, moderate, protein, and high fat diet, known as the Newburgh-Marsh diet. Second, the moderate carbohydrate, protein, and fat diet, known as the Woodyatt-ratio diet. Third, the high carbohydrate, moderate protein and low fat diet, known as the Joslin diet.

Each school has its adherents and until the present time no optimum diet has been evolved. If one is satisfied that his particular method observes all the requirements, it will probably be found as suitable as any that another might suggest. Every one has an occasion arise now and then, when the regime which has been followed

successfully for a time does not seem to work, and he must then modify his system to meet the individual necessities of the case.

I have been feeding diabetic patients for a great many years. I have gone through the oatmeal and the vegetable days; I have used the starvation treatment of Allen; I have used the three methods mentioned before, namely the Newburgh-Marsh, Woodyatt, and Joslin diets. At the present time all my patients receive at least 60 grams of carbohydrate and more often 100 grams. They receive one gram of protein per kilogram body weight and if they are infants or children, they receive more. I give them enough fat to make up the deficiency in calories. A common formula is to give 1 gram of carbohydrate and of protein and 2 grams of fat per kilogram body weight.

The Newburgh-Marsh diet gives a ketogenic antiketogenic ratio of 1 to 2 or 3. The Woodyatt diet yields a ratio of 1 to 1.5, the Joslin diet 1 to 1. The diets at present in use in the clinic and in the hospital show a ratio of glucose 1 to fatty acid 1.25. The ratio method of feeding diabetic patients rests on very little positive laboratory evidence, and is not accepted by many clinicians as proven. While I do not hold strictly to this technic, most of my diets would give this ratio if computed according to the Woodyatt formula.

I have fully convinced myself that it is impossible to satisfy an individual, be he either youth or adult, with less than 60 grams of carbohydrate a day. More frequently it requires 70 or 80 grams to meet all their requirements. I have fed many children and adults on from 30 to 40 grams of carbohydrate per day, and have later found that they were sucking the honey out of clover or eating toothpaste and mucilage or anything to make up the deficiency of carbohydrates, whereas the adult would pilfer the ice-box at night or other patients' trays in the hospital, for the same reason.

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Consequently the blood sugar and urinary sugar would fluctuate so that an accurate estimation could not be determined. Whereas, if patients are given an adequate carbohydrate allowance, they are happier and more contented, they will co-operate better, and the blood sugar and urinary findings are more easily maintained at a constant level. Insulin may have to be used to obtain these results. I do not hesitate to use it when it is necessary; it is one thing to prescribe what you may think is a proper diet, but it is quite another thing to get patients to follow it constantly, willingly, and cheerfully from day to day and month after month. You must take into consideration the likes and dislikes of your patient and his ability to purchase and obtain the foods you prescribe, if you expect him to co-operate with you cheerfully.

The protein requirements for an adult patient who is active are at least 1 gram per kilogram of body weight. The amount must sometimes be increased to $1\frac{1}{4}$ grams to keep them in nitrogen equilibrium, while to children we frequently give two, three, or four grams according to age. It has been shown that for experimental purposes, a patient may be kept in nitrogen balance on $\frac{2}{3}$ to $\frac{3}{4}$ gram of protein per kilogram weight, but this amount of protein is not practical for patients who select their own diets and are at all active or attempt to do some work.

It was sometimes difficult to know how many calories and how much protein to feed diabetic children until I established the following table, which seems to answer all purposes:—

Age	Calories per day	Grams Protein per kilo body weight
1	100	4
2	90	3.5
4	80	3
6	70	3
8	60	2.5
10	50	2
12	50	1.5
14	50	1.5

After the age of sixteen years, the children are fed the same as adults, with but few exceptions.

The Americans are a carbohydrate and protein eating people. Very seldom from choice do they eat large quantities of fat. Most of us cannot tolerate an excessively high fat diet over any great length of time. The diabetic whose carbohydrate is limited to one-half and frequently to less than one-third the amount a normal person consumes, must make up this deficiency in calories from fat, but to give them more fat than is necessary to make up this deficiency is unwise and not well tolerated by

the individuals for any great length of time.

I believe it requires larger doses of insulin to feed a high fat diet and that acidosis supervenes more easily. Joslin in the last edition of his text book says, "A high fat diet is as inimical to the diabetic as it is to the normals. A high fat diet in the modern treatment of epilepsy causes hyperglycemia, and acidosis," and he cautions us not to make the fat too high or the carbohydrate too low. Strike a balance. Do not treat the diabetic like an epileptic on the one hand, or like a normal individual on the other. As for protein, use discretion. (Page 103).

"Arteriosclerosis is one of the most troublesome complications of diabetes, today. It has supplanted coma as a cause of death in diabetes."

Arteriosclerosis is due to faulty metabolism and to the deposit of fat in the form of cholesterol esters in the arteries. The more fat there is in the blood, the more readily is it deposited. The subsequent calcification of the deposited cholesterol leads to calcified arteries.

Arteriosclerosis is present in 63 per cent of diabetic patients above the age of 40, and in only 28 per cent of non-diabetic patients of similar age. It seems to vary with the duration of the disease and the neglect of the treatment, because it was not observed in cases of long standing when the disease was controlled.

Protein is acknowledged to favor, rather than to prevent, the onset of arteriosclerosis and no one approves of increasing the protein above the usual standard of 1 gram per kilogram body weight in the diet of an individual who is developing arteriosclerosis.

Carbohydrate, if taken in excess so as to produce obesity, also favors the development of arteriosclerosis, but is the food par excellence which we can give all arteriosclerotics, especially those with a localized disease in the heart, kidneys, and extremities. Only as much should be given as can be burned without causing hyperglycemia, because this hyperglycemia is an abnormal condition and any abnormal condition will tend to wear out the machine.

Any diet that is prescribed must be such that it will supply sufficient energy to the body to enable metabolism to be carried on in a normal manner. The energy required is to be calculated in calories. It is determined by several factors: age, height, weight (underweight or overweight), and the activity of the patient. We consider it

preferable that the average diabetic be kept a little underweight. He must have a sufficient number of calories to carry on comfortably or he will become dissatisfied and will refuse to follow dietary instructions.

The calories obtained from carbohydrates should supply enough energy for muscular work, the protein should give sufficient strength so that he does not complain of weakness, while the fat must furnish the heat and also make up for any deficiency not covered by the carbohydrate and protein.

We usually consider that the conditions are satisfied when the calories per kilogram of body weight in an adult are within the limits of 20 to 35 calories. To young children we give more. The amount can be varied as experience with the case seems to indicate. After placing a patient on a diet that has been calculated for him, if it is found that he shows sugar in the urine, we know that his pancreas will not allow him to utilize a proper diet, and as he can not supply enough of his own insulin, we will have to supply it for him.

I have often said that I believed more insulin was used unnecessarily than is used necessarily. I am led to this belief when I hear of the number of patients who are going to physicians' offices to receive a dose of insulin two or three times a week. When I see the number of obese patients taking insulin and when I see the number that are taking it irregularly to tide them over a carbohydrate spree, it leads me to believe that a tremendous amount of perfectly good insulin is being wasted.

Any one who can get along by taking insulin less than once a day, does not need it at all, and should be managed by diet alone. Very seldom is it necessary to give insulin to an obese patient unless he has an infection, and then it is only a temporary expedient, which is to be discontinued when the need has passed.

To give insulin to patients so they may eat unnecessarily large amounts of carbohydrates only brings discredit to a most useful drug and dissatisfaction to the patients. Finally, to the physician who prescribes it in this way, Joslin says, "Insulin is a remedy for the wise and not for the foolish, be they patients or doctors. Every one knows that it requires brains to live long with diabetes, but to use insulin successfully requires more brains."

In an uncomplicated case, insulin is usually not given immediately to get the urine sugar free; ordinarily these patients are

first placed upon a fasting period of 24 to 36 hours, during which time they may have clear tea, coffee, broth, and water ad lib. In this interval the dietary requirements are calculated, and the physical examination is made. They are then placed on a sub-total diet. It is surprising how many patients will become sugar free if this method is given trial. If the urine is not sugar free after a few days of such management, insulin administration must be instituted.

Large doses of insulin are not as a rule necessary. Many patients taking one large dose of insulin before breakfast and only once a day, can get along with a less total amount, by dividing the dose and giving it twice a day. Insulin that is not used is wasted. Joslin says that "patients taking large doses of insulin are walking stilts and their equilibrium is not as secure." Most of the injections are given twice a day, usually before breakfast and supper. Some severe diabetics require it before each meal and children often require a dose after midnight so that they will have a lower blood sugar in the morning. We try to keep the single dose as low as possible, for we have found that the larger the single dose, the less effective will be the single unit of insulin; and the more frequent the injections, the lower will be the total amount required in twenty-four hours.

Insulin is absorbed and used in the body at a certain definite rate. When excessive doses are given, it is not absorbed to be utilized in the tissues, but is eliminated by the kidneys. Evidence of this is shown by injecting the urine of individuals taking large doses of insulin into rabbits, which produced symptoms of hyperglycemia and low blood sugar readings. The dangers of using insulin have been overestimated. I have seen but three deaths from hypoglycemia. In each instance the insulin was repeated in increasing doses when the patient was already manifesting signs of hypoglycemia. Insulin when properly used is devoid of any dangers. It does not aggravate any complications of the disease, e. g. tuberculosis, pneumonia, heart disease or any of the acute infectious diseases.

The primary reason for avoiding its unnecessary use is the inconvenience of hypodermic administration and the added care necessary in proportioning the diet to the dose of insulin. Diets must be proportioned and weighed more accurately when insulin is being given than when the management is by diet alone.

Insulin should be used freely as a preventive of systemic infections, when dealing with cases of gangrene. Children require insulin more frequently than adults, and it may be advisable at times to give it to them on the supposition that it may provide a rest to the pancreas, in spite of the fact that there is but little evidence of the regeneration of the pancreatic function when it has once been lost. I have never seen an increased tolerance manifest itself from the use of insulin alone, although we do see great improvements from the combined use of diet and insulin, or even diet alone.

CONCLUSIONS

It has been shown that the diet must be of sufficient calories to allow the patient to do the amount of work he is expected to do.

That the diet must be of such as he can procure, eat and digest with satisfaction to himself and his physician.

That insulin should not be given un-

necessarily to obese and overweight patients.

That insulin should be given in sufficient amounts and at times when most needed either before or after the meal and at midnight when necessary to keep the blood sugar level and the urine constantly free of sugar.

That large single massive doses of insulin are not as effectual as small more frequently repeated doses.

That it is not advisable or necessary to feed patients less than 60 grams of carbohydrate a day.

That at least one gram of protein per kilogram body weight should be given except for definite reasons or for experimental purposes.

That it requires larger doses of insulin to feed a very high fat diet.

That excessive quantities of fat in a diabetic diet is apt to make the existing arteriosclerosis worse.

CLINICAL SIGNIFICANCE OF CARDIAC ASTHMA

In a group of 250 patients with cardiac asthma discovered in the past few years among 3,100 private and hospital patients with organic heart disease (8 per cent), and analyzed by R. S. Palmer and P. D. White, Boston, 180 were males and 70 females, and all but 14 were over 40 years of age. The grave prognostic significance of the condition is shown by the fact that 170 of the 250 patients are known to have died, with an average duration of life of 1.4 years after the first attack of cardiac asthma. The largest number of cases, 187, was found in the group of patients with coronary disease, hypertension, or both (10.7 per cent of this etiologic group), but the highest relative incidence occurred in syphilitic heart disease (21 per cent) and in chronic nephritis (19 per cent). Left ven-

tricular failure due to any one or a combination of several factors appears responsible for cardiac asthma, but the exact mechanism is not clear. The frequency, duration and severity of the attacks altered the prognosis appreciably only when of extreme degree. The coincidence of poor heart sounds, gallop rhythm and pulsus alternans indicates, as a rule, a very short life. Aortic regurgitation, usually of syphilitic origin, was the only common valve defect (63 cases of the 250). In therapy, digitalis and rest were generally effective in reducing the number of attacks and apparently in prolonging life; for the treatment of acute attacks nitrites and alcohol were sometimes helpful, but morphine was of the greatest value. —Journal A. M. A.

EPIDEMIC OF TRICHINOSIS

In an epidemic of forty-three cases of trichinosis due to trichinous pork reported on by Edward P. McDonald and Kenneth C. Waddell, Albany, N. Y., the predominating symptoms were: muscle and joint pains in twenty-two; edema of the face in nine; generalized edema in two; general fatigue in nine; cough in seven; severe headache in two; vomiting in two; chills in one; furuncles in one; marked hoarseness in one; lobar pneumonia in one, and broncho-pneumonia in one. Eight of the patients did not present any symptoms. The treatment should consist of rest in bed; the free administration of fluids; a high caloric diet, and 2 grains (0.13 Gm.) of mild mercurous chloride given in divided doses with a morning saline cathartic, to be repeated once after three days. Colonic irrigations should be given together with such symptomatic treatment as may be indicated. Clinical data should include a complete blood count; urinalysis; chemical analysis of the blood; stool and spinal fluid examinations, and biopsy of

excised section of muscle. McDonald and Waddell state that the majority of cases showed an eosinophilia with a relatively low percentage of neutrophils and a high percentage of lymphocytes and leucocytosis. In patients with a complicating infection, such as pneumonia, the blood picture may be markedly altered with an absence of eosinophilia. With few exceptions, cases go on to chronicity. All persons who eat of trichinous pork need not necessarily give clinical evidence of the disease. Although patients with cerebral symptoms and signs may show the parasites in the spinal fluid—parasites are not consistently present. No known remedy is specific. Drastic catharsis early in the infection is beneficial, as it aids in ridding the intestinal tract of parasites. The blood sugar was low in all patients, which may be accounted for theoretically; either because of the presence of myositis, glycogen storage was impaired, or, because of muscle involvement, sugar consumption was increased.—Journal A. M. A.

SOME PROBLEMS CONNECTED WITH CANCER*

REUBEN PETERSON, M. D.**

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I have just returned from a four months' vacation and have had no time to prepare a formal paper on the subject assigned to me by your secretary. However, the subject of cancer, no matter where situated, is so important that one should always be glad to discuss it.

The main characteristic of the cancer question at the present time is the discouragement existing regarding the treatment of the disease, both among our own profession and the laity. Too many doctors and far too many people believe there is no cure for cancer—that the patient with the disease in whatever location is doomed. The patient, who notices a suspicious lump, all too often fails to consult a physician because he or she thinks it cancer and incurable and that death is inevitable in the same horrible form in which many of their relatives and friends have died from the same disease.

In the case of the practitioner who meets with two or three cases of cancer in the course of his practice in a year and sees all those patients dead within two years, it is not strange he loses heart and also thinks the disease incurable. In fact, I know of no condition where it is necessary to so whip one's courage as in the treatment of cancer.

Yet we need not be too discouraged. Looking back over nearly 40 years of practice I can see we are infinitely better off today in the treatment of this disease.

Let us not worry about the cause of cancer. Let us leave that to the research workers, who without doubt will find the cause some day, if there be a single cause which is open to doubt. We can say to our patients we do not know the real cause of cancer, but we do know certain conditions which favor its development. We practitioners are most interested in the early recognition of the signs and symptoms of cancer and how to cure our patients.

It is our ever-present duty to combat pessimism about the curability of cancer, for the laity take their cue from the doctor. If he says to the patient that the disease is cancer and indicates by his manner he considers it incurable, his pessimism soon permeates the atmosphere and discourages not only the particular patient, but everyone she comes in contact with and prevents these in turn from seeking advice early.

Cancer is a dreadful disease. When far advanced and not treated, it is apt to be a

loathsome disease, but this does not mean that in the beginning it was not microscopic and amenable to complete removal and cure.

That should be our text, morning, noon and night. Cancer starts in a small way and, if discovered at that time, can be completely removed with no recurrence. Watch out for the first symptoms of cancer, for then is the time to begin the cure.

I remember performing a hysterectomy for carcinoma of the fundus in the early nineties on a patient referred to me by one of the former grand old doctors of this society, Dr. G. K. Johnson of Grand Rapids. After two or three years had passed with no recurrence, the old doctor said to me one day that I had made a mistake in diagnosis and that it was not cancer because the patient was still living. He was not convinced, when told that microscopically it was demonstrated cancer. In his long years of practice he had operated upon over a hundred women for cancer of the breast with not a single cure, all dead of the disease after a certain time. Hence, he did not believe cancer could be cured by operation.

Of course, we know why good surgeons, and he was one, failed. No cancer of the breast was operated in those days in its early stages—not before the axillary glands were involved. They used to let it grow until there was no doubt it was cancer. An operation consisted in removal of the breast and leaving the cancerous axillary glands behind. The patients died, not of a recurrence, but of a continuation of the cancer. If we compare this situation with present conditions in the treatment of cancer, we see a wonderful improvement. Incomplete operations have been abandoned for radical removal of all tissues and lymph channels which are or may be affected by the disease.

When I began the practice of medicine nearly 40 years ago, cancer of the tongue, for instance, was a perfectly hopeless disease. A few bold surgeons removed

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the tongue, but not the glands. The operation was not extensive enough and the disease was not arrested. Under modern surgical methods, with early diagnosis and radical operation, a very fair proportion of cures with no recurrence result.

The same may be said of cancer of the breast. Heeding the slogan, "every lump in the breast should be regarded as suspicious" cases of cancer of the breast come to the surgeon earlier than formerly. Radical removal of the breast, together with the pectoral muscles and lymph channels, hold out excellent hope of cure in over 80 per cent of the cases.

Formerly not even the boldest surgeon thought of operating upon cancer of the stomach. Now an ever-increasing percentage of cures follows partial or complete gastrectomy with removal of the regional lymph nodes.

In cancer of the uterus, the results are ever-increasingly good. This may be ascribed to the fact that the cancerous cervix, even in the earliest stages of the disease, almost always produces symptoms arousing suspicion and because the organ can be readily palpated and inspected. This is a great advance from the days when practically every patient with cancer of the cervix was doomed. Now, by radical surgical removal, and by the intelligent application of radium, from 30 to 40 per cent of cures result.

While all of the above results should cause us to be far from discouraged, there is yet much to be done. What should be done is so self-evident to the educated physician that he fails to recognize the state of mind of the average patient who reads little and thinks not at all. In the first place, it is difficult to interest the entire public in any one thing. It was done during the war in the campaign to secure funds by talks and posters. Yet with the whole country aroused and talking about "giving till it hurts", there were people who paid no attention. Like the washerwoman who cared for the needs of some of the faculty ladies of the university, when one of them said such and such a thing could not be done on account of the war, the wash lady said, "What war?" and when told it was the Great World War, replied that she was astonished that war was still going on and that she thought it had ended long ago.

Exaggeration, yes, but an explanation of a great truth that only by countless repetitions can you hammer things home to people—the great mass of the people.

Early and late our task is to tell our patients again and again, over and over, that pain is a late symptom of cancer and that they should not wait for the symptom before going to their doctor.

And again we must see to it that we, as a profession, do our duty. Some doctors are ignorant, pessimistic or careless about their advice or treatment of patients with suspicious signs of cancer. It is little short of criminal to give office treatment to a woman with a suspicious cervix until it is too late for effective treatment.

The promulgation of the true facts about the diagnosis and treatment of cancer to the medical profession will come through more thorough and systematic teaching of the undergraduate in our medical schools. The ignorant will be supplanted by the intelligent physician. It will take time, just as it has taken nearly 40 years to see the disappearance of the old-time surgeon disregarding of the principles of asepsis.

So far as the education of the public in regard to cancer, all well established methods of publicity and propaganda must be utilized. Let no false ideas about medical ethics prevent us as a profession from employing all methods of publicity shown effective in other walks of life. Let us welcome the movement to furnish health columns in the newspapers under the supervision of the leading members of this society.

As an example of what can be accomplished by newspaper and magazine publicity we have only to consider the appendicitis campaign. Forty years ago practically no one was operated upon for this disease. Now, through newspaper publicity, everyone knows the appendix is on the right side and the slightest pain there will send the patient to the doctor. We even have difficulty in preventing people from having useless operations where they have made their own diagnosis of appendicitis.

So far as the cancer problem is concerned, a great deal can be done through the State Board of Health, with its efficient commissioner, Dr. Kiefer, who is so well backed by Governor Green. The powerful agencies of this state department can do much good in spreading the gospel of the early recognition and treatment of cancer to the people of the state. Personally, I am perfectly willing to leave to the Board of Health the details of their efforts to put across an effective cancer campaign. Any and every dignified effort to save all

or a proportion of the ten people dying each day of cancer in Michigan should be welcomed by the profession of the state.

I am in favor of cancer clinics, even free cancer clinics, although I am aware the latter are looked upon somewhat askance by doctors for fear of this leading to state medicine. As chairman for Michigan for the American Society for the Control of Cancer, I tried a short time ago to establish cancer clinics throughout the state through the agency of the councillors of this society. It was only partially successful, owing to the opposition to free cancer clinics. In some places it was quite successful and many patients with cancer were undoubtedly saved. Dr. Saltzstein of Detroit, has shown what can be accomplished by wide publicity and free cancer clinics.

Years ago we were just as discouraged over pulmonary tuberculosis. Anyone with the disease was thought to be doomed. Yet the mortality of the disease has steadily been reduced by wide and intelligent organization and publicity.

The same can and will be done for cancer. Let us all get together and work to bring this about.

DISCUSSION

Dr. George (Ann Arbor): I was interested in Dr. Peterson's paper, especially about the cause of cancer. Of course, we are all interested in finding the cause of cancer if that is possible. Research workers have been busy on this subject for a good many years. In some parts of the world various workers have brought out what they thought was the parasite, or a germ, bacterium, that caused cancer.

For instance, in Chicago one surgeon thinks he has found the cause of cancer in the form of a vegetable parasite, or germ. But most pathologists disagree with this theory of cancer. They do not think that it is of an infectious nature, but rather of a pathological process that takes place in the body, under abnormal conditions, so that certain cells take on an abnormal growth, compared with their normal growth.

There are other workers in England who thought they found the germ of cancer. There the lead treatment has been used for a good many years. But, it has not been altogether successful.

Then in Germany, Schmidt of Munich thought he had discovered the germ of cancer. I think that was some 15 years ago. He first announced his discovery then. He inoculated horses with this germ and produced a serum, taking the blood of the horse after it had undergone the disease. Then he used that for inoculating patients, and besides, he made a vaccine from these germs.

For the last 15 years we have seen articles in the German medical journals on these vaccines and serums being used in inoperable cases of cancer. They found that was good on cases where nothing could be done. They were started on this treatment and fully 19 per cent of these cases have been cured. Of course, a great many

of them are not helped at all. But, if the case was put under treatment early, before all the resistance of the body was gone to combat the disease, there was some chance.

This treatment has not been recognized by the United States Public Health Service. They think that not a sufficient number of cases have been cured to warrant them in giving Schmidt a license to sell these preparations in this country. Consequently, they have furnished the vaccines and the serums to various doctors in different parts of the country and to various hospitals for trial, hoping to get enough successful cases on record so that the United States Public Health Service will finally grant them the license.

I wanted to give you the results in a series of cases I have had and you may take them for what they are worth. Of course, this is a new form of treatment and it stands or falls on its merits. I have treated about 15 cases of inoperable cancer. Of course, where the tumor is operable, it should be removed, always. But, these are cases that are beyond the help of operations. These 15 cases were treated and of them I can say there were two cases that have been helped. However, the help has been so remarkable that I desired to make a record of it before the Society.

One case was that of a woman, about 35 years of age, who has had six children. This trouble started during the last pregnancy. She began to have pus in the urine and after the baby was born the pus increased in quantity considerably so that the urine was practically filled with pus. It would hardly flow out of a small bottle. There was frequent filtration and pain in the abdomen on the right side of the pelvis and on examination I found a tumor there which seemed to involve the uterus and the right ovary. In consultation with Dr. Cumming at Ann Arbor, we decided the case was one of cancer.

We both thought it was inoperable. I had a cystoscopic examination made by Dr. Edinbough of the University hospital. When we saw the growth in the bladder, in connection with what was in the uterus, we unhesitatingly pronounced that to be cancer. There was no help except by the use of radium.

I had been reading the reports from Germany and I thought I would start the case on this treatment. That was about a year ago. In a short time the woman increased in strength and the pus began to disappear from the urine. Now, at the end of a year's time the growth has practically disappeared and cannot be palpated any more. Besides that, the kidneys have all cleared up, where she had to get up about 18 times a night. The urine is perfectly clear and there is no pus at all.

She has six children, lives on a farm and is doing all of her housework. She has made a good recovery of whatever she had.

The other was the case of a woman who was operated by Dr. Peterson two or three times. The last operation was a little over a year ago. He pronounced the case, from the pathological report, as being one of sarcoma. She was put on the same treatment and at the end of a year the growth is scarcely to be recognized and she has increased so much in strength that she is able to do her housework. She has two small children at home, lives on a farm.

These results are good. That is, however, only two cases out of fifteen. The method, of course, of the treatment has to stand on its own merits. But, even if there are just a few cases saved, those that have been inoperable, it is worth trying.

RENAL ACTINOMYCOSIS WITH PARTICULAR REFERENCE TO URINARY FINDINGS*

REPORT OF CASE**

PAULINE BEREGOFF, M. D.†

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Actinomycosis is no longer considered a rare disease. It is very frequently found in its different forms and manifestations. The kidneys are often found to be the seat of the lesions, but these lesions are considered of metastatic origin rather than primary. The process may arise by extension from the thorax, by metastasis or by infection the gastro-intestinal tract. The diagnosis of renal actinomycosis is at best a difficult one to make. The case here reported is of interest because of the fact that the diagnosis of this disease was made by finding the fungi in urine when the patient did not present any symptoms to warrant this infection. A careful search of the literature, including the interesting data recorded by Sanford¹ in his large collection of cases of actinomycosis, fails to disclose any case recorded where the urinary sediment determines the diagnosis. Christison and Warwick² present a case of a boy of eight years of age, where actinomycosis of the lungs with involvement of the suprarenals alone, was found. The urinary findings in their case were negative.

REPORT OF CASE

Mrs. M. B., aged 63, a farm-hand and laundress, was admitted to the General Hospital, August 6, 1928, complaining of pain in the right upper portion of the abdomen. The pain would rotate toward the posterior lumbar region and both inguinal regions. Up to two years ago patient enjoyed good health. Then she began to complain of frequent coughing spells and sore mouth. Having abscessed gums, she had all her teeth removed. Her condition improved. For the last six months previous to admission, patient complained of weakness, loss of weight and inability to do her work. Her physician told her that she was suffering from a uterine tumor and advised surgical care, for which she was referred to Dr. Swanton. A pre-operative urine specimen, examined by the technician, was reported to be of milk-like appearance, containing many hyaline and granular casts, renal cells and an abundance of pus cells. The chemical examination revealed a heavy cloud of albumin and an excess of indican. The blood showed 3,500,000 red cells, 17,000 white cells with a polymorphonuclear count of 81%. The hemoglobin was 72%.

August 7, a hysterectomy and bilateral salpingo-oophorectomy was done by Doctors Swanton and Flood, who suspected a malignant growth of the uterus. A firm interstitial tumor the size of an egg was removed. Sections of the tumor showed it to be a fibromyoma with no evidence of malignant infiltration.

The first few days after operation, patient seemed to be doing nicely. The temperature did not exceed 100 F. However, August 16, she started

to complain of pain in the right side of abdomen, was very weak, and was unable to take nourishment. August 19, patient appeared toxic, very weak and practically in coma. The physical examination, that day, revealed an extremely emaciated woman. The pupils were equal, dilated, and reacted normally to light. The nose and ears were negative. The tongue was coated, the lower gum showed evidence of inflammation. The chest disclosed an enlarged heart with a distinct systolic aortic murmur. The right lung presented a small area of dullness of the middle lobe, the left was negative. The abdomen slightly distended, was tender but not rigid. The recent suprapubic incision over the middle line was healed. A palpable mass was felt over the right kidney region. As the patient was acutely ill, it was impossible to ascertain whether this mass was a large misplaced kidney or tumor. The lower extremities were edematous, especially the ankles. The blood pressure was 100 systolic and 70 diastolic.

A catheterized urine specimen, obtained the same day, impressed me by its appearance. It resembled a specimen of milk, was fatty in consistency with a heavy sediment. It contained albumin 3%, acetone ++, diacetic acid ++, indican ++++, fat +++. Microscopic examination of the sediment showed a large number of mycelia resembling those of *actinomyces bovis*. Only a few



Fig. 1.—Urine sediment. High power. Showing a colony in a crushed granule of *actinomyces bovis*.

clubs of the fungi were noticed. There were many granular casts, renal cells and an abundance of pus cells. This sediment was cultured

* From the Department of Pathology of the Traverse City State and General Hospitals.

** Presented before the Grand Traverse Leelanau County Medical Society.

† Dr. Pauline Beregoff, Ph. G., 1918; M. D., 1925; La Facultad de Medicina de la Universidad de Cartagena, Colombia, S. A. Ex-professor in bacteriology and parasitology of the University of Cartagena, Colombia, S. A. Pathologist at the state and general hospitals of Traverse City, Mich.

and a pure culture of *actinomyces bovis* was obtained. The blood count revealed 3,500,000 erythrocytes and 28,000 white cells. The polymorphonuclear count was 86% showing 10% eosinophiles.

The patient continued to grow worse and died August 21. A partial necropsy comprising the abdominal cavity was permitted.

NECROPSY

The intestinal massa appeared normal. The gall bladder was distended and contained two small stones. It showed no evidence of acute inflammatory changes. The liver was firm, pale and of normal

notably at the bases of the pyramids. There was much fatty degeneration and considerable destruction of renal structure. The pelvis was dilated and filled with thick creamy fluid resembling that of the urine sediment. The left kidney was normally situated. It was insheathed in a dense fibro-fatty layer composed of perirenal tissue transformed by the inflammatory process. It weighed 420 grams and measured 5 by 2½ by 2 inches. It showed similar changes of the renal structure to the right kidney, but not so extensive. The ureters of both kidneys were three times the normal size. The bladder was filled with milky muco-purulent urine and showed no pathology of the organ. The suprarenals were enlarged and except for fatty degeneration showed nothing of importance.

An attempt was made to palpate the heart and lungs by entering through the diaphragm. The heart was large and firm. It was difficult to palpate the lungs, yet it was possible to feel a nodule, the size of a walnut, in the adhered middle lobe of the right lung. The nodule was soft but deeply embedded. An attempt to remove it caused hemorrhage and the physician on the case did not permit further investigation. However, enough material of the nodule had been removed for examination that showed the presence of the fungi.

Sections taken from the kidneys presented collecting tubules and pyramids filled with polymorphonuclear leucocytes, which were also numerous distributed between the lining epithelial cells and interlobular tissue. Plasma cells extended throughout the areas. Abscess formation was seen all over the renal tissue. Also over many areas of necrosis there were

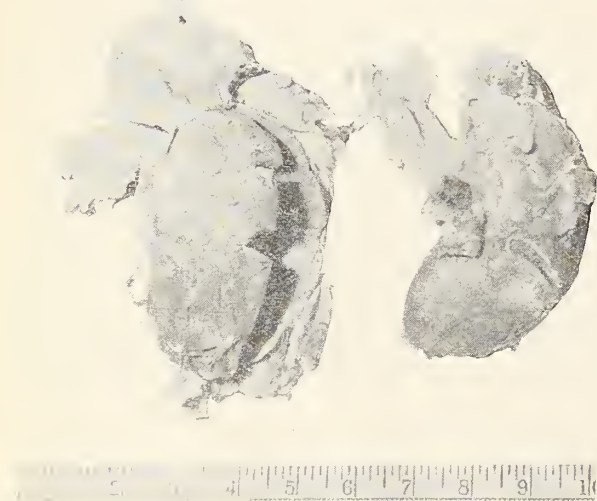


Fig. 2—Kidneys: The right has its capsule stripped off, showing a granulated surface; the left presents areas of necrosis of the capsule.

size. The right kidney was embedded in an excessive mass of perinephritic fat and somewhat displaced toward the diaphragm. It measured with the capsule attached, 7½ by 4 by 2 inches and weighed 535 grams. The capsule was covered with exudate, was thick and adherent. While stripping it bits of parenchyma came away with the cap-

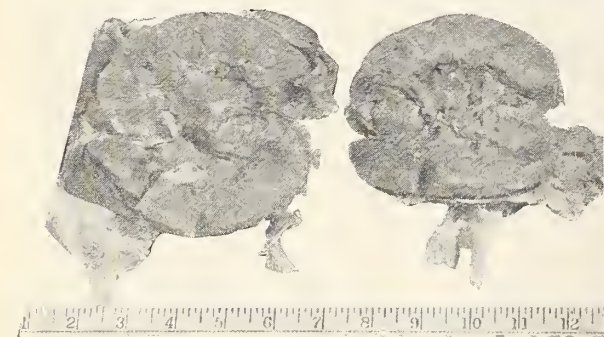


Fig. 3—Sectioned kidneys, (they were fixed in formalin).

sule and many small abscesses were opened discharging a thick creamy pus. The cortex presented an irregularly lobulated surface. When one of these lobulations was incised yellowish pus of thick consistency exuded. The cut surface of the kidney showed many scattered abscesses,

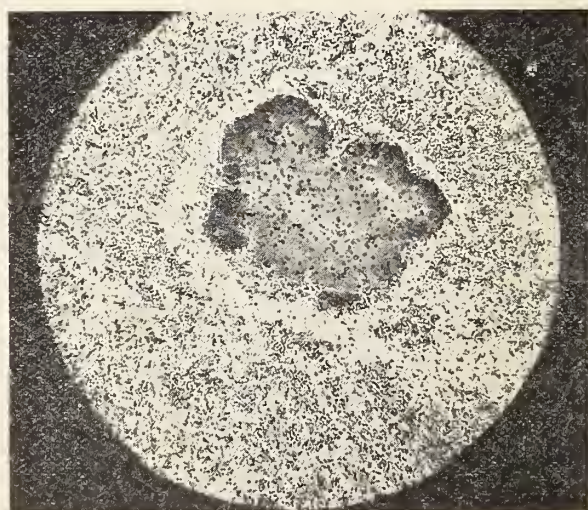


Fig. 4—Photomicrograph of a section of the kidneys, showing the fungi surrounded by pus cells. Low power.

colonies of the fungi of *actinomyces bovis*, surrounded by polymorphonuclear and endothelial cells. The smears taken from the pelvis and from the opened abscesses of both kidneys showed the mycelia of the fungi in large numbers.

COMMENT

This case is of interest for a few reasons. First it shows the importance of having a trained worker examine urine sediments. The routine urines are usually examined by technicians who know very little about parasitology, therefore many important findings remain unrecognized. The physicians who treated our case, had no suspicion whatever of the infection. If the diagnosis of renal actinomycosis would

have been made previous to the operation other treatment would have been given. Furthermore, it is rare to find the kidneys alone, of all the abdominal organs, to be infected. In our case, the primary focus of infection was probably in the gums, extending then to the lung and kidneys. Besides, the rarity of finding the fungi in the urine is of much interest.

END

I wish to thank Doctors Swanton and Flood for permitting me to study up this case.

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REACTION OF THYROID GLAND TO INFECTIONS IN OTHER PARTS OF BODY

Further work done by Warren H. Cole and Nathan A. Womack, St. Louis, on the relation of infections and toxemias to the histologic picture of the thyroid gland confirms their observations concerning the production of hyperplasia, loss of colloid, desquamation and decrease in iodine content in certain septic processes and toxemias. Somewhat similar observations have been recorded by other workers. The authors have developed a toxin containing a group of four organisms which, when injected subcutaneously into dogs, will produce these changes in practically 100 per cent of the animals if iodine has not been ingested by them. The average iodine content of the thyroid of normal dogs is 0.304 mg. per kilogram of body weight, whereas the average iodine content of the thyroid glands of animals dying from severe infections is 0.142 mg. per kilogram of body weight. Similar changes have been observed in the thyroid glands of human beings who have succumbed to acute infections, but these changes are present to a lesser degree. Evidence points to a relation of infections to hyperplastic glands in human beings. Basal metabolic studies

made by the authors on animals with hyperplastic glands produced by toxemias and infections have revealed a basal metabolic rate elevated out of proportion to the fever. Injection of toxic doses of histamine produces a marked rise in the metabolic rate, without a significant rise in temperature, and also creates a desquamation, loss of colloid, decrease in iodine content and beginning hyperplasia in the thyroid gland. Injection of toxic doses of an amino acid (glycocoll) produces the same histologic changes. The pathologic changes already mentioned in the thyroid as produced by infections can be prevented to a great extent by the oral administration of iodine. The data assembled support the theory that the thyroid gland takes an active part in the resistance of the body against certain toxins and infections. In spite of the added information that iodine exerts a protective role in the attack on the thyroid by infections, the authors still feel reluctant to advise the therapeutic administration of iodine to human beings suffering from severe infections.—Journal A. M. A.

NORMAL HEART OFTEN BEATS IRREGULARLY

If you are kept awake at night by your heart acting strangely, especially upon first lying down, you need not be alarmed. Irregular or extra heart beats are perfectly normal in a great many cases. In fact, extra beats are a carefully planned act of Nature, meant to insure continued beating of the heart, in the opinion of Dr. Milton J. Raisbeck of New York City. The heart is made up of a great many cells. Each cell is capable of starting the contraction which we know as the heart

beat. Some of the cells commonly set the pace or rate at which the heart beats. Sometimes these change their pace, particularly when a person rests after exercise. If the pacemakers change very quickly, a few of the other cells may not be able to keep the pace. Then you are conscious of an extra or irregular beat, Dr. Raisbeck explained. Fear should not be felt at such irregularity, and Dr. Raisbeck urged physicians not to frighten their patients by telling them they have irregular hearts.—Science Service.

ACUTE MILIARY TORULOSIS OF LUNGS

Edwin F. Hirsch and George H. Coleman, Chicago, report on a case of acute miliary torulosis of the lungs. In cultures of the spinal fluid and in blood from the right ventricle of the heart removed during the postmortem examination, *Torula histolytica* was isolated. They state that acute miliary torulosis of the lungs follows a blood stream dissemination of the torula organisms from some chronic lesion. Although other reports mention chronic changes of the lungs,

their case seems to be the only one in which all of the lung changes were acute. The chronic lesions from which the torula organisms were liberated probably are those in the meninges or tissues of the middle cranial fossa. The location of these about the gasserian ganglions and the middle meningeal arteries suggests that the infection of the meninges has extended along these structures from the nasopharynx.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

UNIFORMITY OF SEROLOGICAL TESTS FOR SYPHILIS
IN THE STATE OF MICHIGAN

The degree of uniformity of the serological tests for syphilis carried out throughout the state has recently been subjected to a 10 months' study in which nine laboratories co-operated with the Bureau of Laboratories of the Michigan Department of Health at Lansing. At intervals of about a month a set of sera was submitted from Lansing to each of the co-operating laboratories, similar sets being submitted in return to Lansing from these laboratories.

The results obtained at two of the three laboratories using one or more modification of the complement fixation method show satisfactory agreement with Lansing. A very close agreement with Lansing is shown for five of the laboratories using the technic that is standard in the laboratories of the Michigan Department of Health. Indeed, of a total of 362 specimens tested in duplicate by the Lansing laboratory and this group of five laboratories, there was not a single case of absolute disagreement, and only one relative disagreement was found in which the variation was between ++++ and +.

These results speak favorably for the degree of standardization of which the Kahn test is capable. Furthermore, they show the value of comparative studies of this sort by suggesting that when comparative blood tests from two laboratories using the

Kahn test disagree completely in more than 1 or 2 per cent of the cases tested, the test is not being carried out in strict accordance with standard directions in one or both of these laboratories, or the antigen used is not of standard sensitiveness. As a result of this study two of the collaborating laboratories are making the necessary modification in technical detail and in antigen.

The specimens sent from Lansing had not been inactivated. They were prepared from the unheated portions of the daily specimens, pooled so as to give strongly positive and negative results and a few weak reactions. A sample portion withdrawn from each of the arbitrarily numbered specimens was inactivated for 30 minutes at 56°C, and tested in the regular 3-tube Kahn procedure and in the 1-tube presumptive procedure, the latter as a check on the negative reactions. The results were retained at Lansing.

The specimens sent to Lansing from the other laboratories included both pooled and individual sera; a note accompanying each set of specimens indicated the heat treatment to which they had been subjected. Before being tested at Lansing the raw sera received were inactivated at 56°C for 30 minutes; sera that had been inactivated for 30 minutes were reheated at 56°C for 15 minutes, and a few specimens that had

been heated for 15 minutes at 50°C were reheated at the same temperature for 20 minutes.

Of the nine collaborating laboratories, six, including the two branch laboratories of the Michigan Department of Health, use the Kahn test exclusively. In these cases the average of the 3-tube Kahn test was used as a basis of comparison. In three of the collaborating laboratories, one or more modification of the Wassermann technic was used, with or without the Kahn test. When the Wassermann results were reported on the

Laboratory & Tests	RESULTS			COMPARISON WITH LANSING RESULTS										PERCENT	
	Total Number Sera Tested	Lansing Laboratory	Other Laboratory	Absolute Agreement				Agree- ment	Partial Agree- ment	Relative Disagree- ment	Absolute Disagree- ment	Agree- ment & Absolute Agree- ment	Partial Agreement & Absolute Agreement		
Laboratory No. 1 Kahn Test	82	37 7 38	36 5 39	36	3		36	5					100	100	
Laboratory No. 2 Kahn Test	66	28 5 33	31 2 33	28			33	5					100	100	
Laboratory No. 3 Kahn Test	66	28 10 30	28 5 33	26	4		30	5	1				98.5	100	
Laboratory No. 4 Kahn Test	77	31 10 36	36 7 36	31	4		36	5	1				98.7	100	
Laboratory No. 5 Kahn Test	71	31 4 36	34 3 34	31			34	2	3	1			94.3	98.6	
Laboratory No. 6 Kahn Test	73	34 6 33	33 10 30	29			27	7	2	4	4		86.3	89.0	
Laboratory No. 7 Kahn Test	95	40 12 43	46 8 41	40	2	2	41	4	1	2	3		93.7	94.7	
Laboratory No. 8 Kahn Test	95	40 12 43	42 8 45	37	1	1	42	5	3	4	3		99.5	92.6	
Laboratory No. 9 Kahn Test	94	41 6 47	43 4 47	40	2		46	3	1		2		96.8	97.9	
Laboratory No. 10 Kahn Test	94	41 5 47	37 10 47	36	1		45	3	6		3		90.4	96.8	
Laboratory No. 11 Wassermann Ant.	71	31 4 36	33 1 37	30			36	3	1		1		97.2	98.6	
Laboratory No. 12 Wassermann Ant.	71	31 4 36	34 1 36	30			36	3	2				97.2	100	
Laboratory No. 13 Kahn Test	71	31 4 36	33 1 37	30			36	3	1		1		97.2	98.6	
Summary	1026	442 90 494	466 65 495	424	16	3	480	53	22	11	17		95.1	97.2	

++++ scale, the report was compared directly with the average of the 3-tube Kahn test. The following scheme was used to convert the quantitative results of the Kolmer test to the ++++ system:

4441 to 42100 (including 24440).....	++++
44000 to 42000, 333000, 321000, 33000.....	++++
41000, 32000, to 30000, 22200, 22000, 21100.....	++++
21000, 200000, 11100.....	+++
11000, 10000.....	++
00000.....	+

In the accompanying table the reactions obtained with each technic employed in the different laboratories are compared with the Lansing reactions. The results are grouped under five main headings. "Absolute Agreement" refers to cases in which identical reactions were obtained. Under this heading ++++ and negative reactions are listed separately from weakly positive and doubtful reactions. Under "Agreement" are given the reactions differing by + or +—, excepting the case of (+ vs. —) which is listed in the next column headed "Partial Agreement". This third column includes in addition positive reactions varying by ++. As "Relative Disagreements" are listed ++++ versus +, — versus +—, and ++ versus —, while ++++ versus +— and +++ or ++++ versus —, are classed as "Absolute Disagreement". The discrepancies are not analyzed into those in which the Lansing laboratory showed the more sensitive or the less sensitive reaction, since the total number of discrepancies is too limited to permit safe conclusions regarding the comparative degree of sensitiveness of the technic employed in the different laboratories. In the last two columns are given the percentage of agreement to within +, on the one hand, and the percentage of agreement to within ++ on the other hand.

C. C. Young, D. P. H.,
Director of Laboratories,
Grace Lubkin, Ph. D., Serologist,
Bureau of Laboratories,
Michigan Department of Health.

A. M. A. CONFERENCE ON PUBLIC HEALTH

At the third Conference on Public Health sponsored by the American Medical Association and held in Chicago on March 29 and 30, Dr. Guy L. Kiefer spoke from the standpoint of the official health agency in discussing "How the Various Agencies Interested in Public Health May Best Work Together for Its Promotion."

Dr. Kiefer stressed especially the usual role of the voluntary health agency, that of promotion, the function of the official health agency, that of demonstration, and the duty of the private physician, that of

incorporating in his practice many phases of public health activities.

MARCH CONTAGIOUS DISEASE SITUATION

With the advent of more days of sunshine, and people getting into the fresh air more, contagious disease begins to decrease. This usual seasonal decrease has been taking place, except in the case of scarlet fever and meningitis.

Scarlet fever in a very mild form has been slightly more prevalent than usual since early in January. The average number of cases reported during the month of March for the past five years has been 1,629. In March, 1929, a total of 2,034 cases were reported. This is an increase of 400 cases over the five-year average. It would therefore be safe to say that scarlet fever is about 25 per cent more prevalent in the state than the average for this time of year.

Field studies of many of these cases reveal that they are very mild. The death rate has been very low. The mildness of these cases has, however, been a considerable factor in their spread. In many of the places where outbreaks have occurred, epidemiological study shows that the infection was brought into the city or village by a mild case masquerading as a sore throat. The ensuing cases were very mild, many of them not calling a physician and hence no true diagnosis was obtained until the investigation by the State Department of Health.

Scarlet fever streptococcus antitoxin has been used with marked success, especially in the serious toxic cases.

Cases of meningitis have been reported with increasing frequency since the first of the year. The increase has been noted in all parts of the state, almost in direct proportion to the density of population. The more populous centers have had more cases than the sparsely populated sections. From January 1 to March 25, 99 cases have been reported in Saginaw. Thirty-five cases had fatal termination, death occurring, with few exceptions, within two or three days. Laboratory studies showed that the responsible organism was meningococcus, type 2.

Detroit reported cases during the month of March at the rate of two to three each day. The death rate in the Detroit cases is about 70 per cent. The colored population is attacked with about twice the frequency of the white population.

In several other parts of the state, cases

of meningitis have been occurring, but these cases are very much scattered, with no history of contact from one to another. The five-year average for the month of March is 14 reported cases. During 1929, there were 98 cases reported in February, and 209 cases reported in March.—D. M. G.

PRESENT STATUS OF THE LAKE LEVELS CONTROVERSY

The suit brought by the States of Wisconsin, Minnesota, Ohio, Pennsylvania, Michigan, and New York, in the Supreme Court of the United States, against the State of Illinois and the Sanitary District of Chicago was referred to Honorable Charles Evans Hughes, Special Master. Hearings were conducted before him in the city of Washington during the latter part of 1927.

Judge Hughes submitted his report to the Court on November 3, 1927. The opinion of the Court was made public on January 14, 1929. Master Chief Justice Taft delivered the opinion of the Court. This opinion referred to Special Master Hughes three points on which the Court wished further testimony to be taken and a subsequent report rendered. These points are: 1. What has the Chicago District of Sanitation done to enable the diversion from Lake Michigan to be reduced. 2. How long will it take the Sanitary District to complete the work now in contemplation so that lake diversion may be further reduced. 3. What amount of water, if any, is necessary to be diverted from Lake Michigan for the purposes of navigation in the Chicago River as part of the port of Chicago. The opinion clearly sets forth that the only legal reason for diversion is to keep up navigation. It does not recognize the validity of diversion for purposes of sanitation.

From March 25 until March 29 additional hearings were conducted in Chicago in the Federal Building before Judge Hughes on these points. The complainant states submitted no testimony in these hearings. The testimony submitted by the Sanitary District was to the effect that about 15 years would be required to complete the work and that at least 2,000 cubic feet per second would be necessary in addition to the water pumped from the lake for water supply purposes in order to prevent conditions in the Chicago River which would be objectionable to navigation. Testimony was also introduced to show how far the work on contemplated treatment plants had progressed.

The State of Michigan was represented by Attorney Wilbur M. Brucker who was assisted by Edward D. Rich, Director of the Bureau of Engineering, and William F. Shepherd, Assistant Engineer.

The hearing will be resumed at the United States Chamber of Commerce Building, Washington, D. C., on April 15, at 11 o'clock, at which time it is expected that rebuttal testimony will be introduced to show that the proposed works at Chicago can be completed in much less than 15 years. It is probable that most of the testimony to be submitted will be furnished at the forthcoming hearing, for there are certain details with reference to control works in the Chicago River on which the Chief of Engineers of the U. S. Army is to give an opinion later.

Inasmuch as Judge Hughes leaves May 1 for Europe to attend the sessions of the World Court, further hearings will probably be postponed until after his return, which will be October 1.—E. D. R.

UPPER PENINSULA NURSES' CONFERENCE

A conference of Public Health Nurses of the Upper Peninsula was held in Marquette March 15 and 16. This was well attended by both nurses and lay people interested in the work. Over 40 nurses were present.

The Superintendent of Schools in Negaunee supplied substitutes for any teachers wishing to attend the conference on Friday afternoon to hear the discussion on immunization. Many teachers took advantage of this offer.

The active part which the nurses took in all discussions showed how keenly they were interested. The recent thaw had made travel by automobile impractical but no one appeared to mind the inconvenience of a night trip even when it included a change of train enroute. It was necessary for the nurses from Ontonagon to leave home Thursday afternoon, travel all night, and arrive in Marquette at 5:00 a. m. Enthusiasm of this type always makes a meeting interesting.

PROGRAM

Friday, March 15—

Organization for an Immunization Campaign.
Dr. Frank Poole.

Prenatal and Infant Nursing.

Ellen Atchison, R. N.
A School Nursing Program.

Norma Eskil, R. N.

Saturday, March 16—

Educating by Exhibits. Pearl Turner.

Nutrition as a Part of a Nursing Program.
Margaret Harris.

Social Service and the Nurse.

Mrs. Salvatore Lojacono.

VISITS OF ENGINEERS DURING MONTH OF
MARCH, 1929

Inspections of railroad water supplies:
total 17.

Bay City	Petoskey
Boyne City	Plymouth
Cadillac	Pontiac
East Tawas	Port Hope
Gaylord	Richmond
Gladwin (2)	Rochester
Mt. Pleasant (2)	Saginaw (2)
Oxford	

Inspections and conferences, water supplies: total 91.

Algonac	Leslie
Allegan (2)	Litchfield
Anchor Bay Beach	Manchester
Athens	Marcellus
Boroda	Marine City (6)
Belleville	Mendon
Benton Harbor (4)	Middleville (3)
Berrien Springs	Milan
Big Rapids (3)	Morenci (2)
Brooklyn	Muskegon (2)
Buchanan	Nashville (2)
Cadillac (2)	New Baltimore (2)
Cassopolis (2)	Niles
Chelsea	Onsted
Clinton	Otsego (2)
Coloma	Owosso (2)
Coopersville	Port Huron (2)
Decatur	Reading
Dexter	Saline
Douglas	Saugatuck
Dowagiac (2)	Schoolcraft
Dundee	Sparta (2)
Fennville	Spring Lake
Gobles	St. Clair (3)
Hartford	St. Joseph (2)
Homer	Union City
Ira Township	Vicksburg (4)
Lawrence	Watervliet (2)
Lawton	Wayland (2)

Inspections and conferences, sewerage and sewage disposal: total 13.

Detroit	Niles
Dowagiac	Owosso (3)
Grand Rapids	Port Huron
Island Lake	St. Joseph
Lansing	Van Etten Lake
Litchfield	

Inspections and conferences, swimming pools: total 13.

Albion	Dearborn
Cadillac (2)	Grand Rapids (6)
Coldwater	Lansing (2)

Inspections and conferences, stream pollution: total 1.

Owosso

Inspections and conferences, miscellaneous: total 11.

Detroit—Lake Levels Suit at Chicago.
 Detroit—Water Supply for Danish Club near Detroit.
 Elk Lake—Resort Sanitation.
 Grand Rapids—Septic tank for school.
 Ingham County—T. B. Sanatorium—Drainage.
 Lansing—Resort Sanitation.
 Lansing—Drainage Nuisance Lansing Township.
 Lansing Township—Septic tank.

Marcellus—Sewage treatment for school.
 Port Huron—Resort Sanitation.
 Wayland—Nuisance.

PREVALENCE OF DISEASE

	March Report Cases Reported			Average 5 yrs.
	February 1929	March 1929	March 1928	
Pneumonia	1,074	846	1,039	964
Tuberculosis	403	414	436	390
Typhoid Fever	11	22	19	36
Diphtheria	320	411	282	419
Whooping Cough	904	1,049	663	632
Scarlet Fever	1,451	2,034	1,143	1,629
Measles	1,408	2,336	5,839	3,887
Smallpox	144	364	154	243
Meningitis	98	209	16	14
Poliomyelitis	3	4	2	3
Syphilis	971	1,146	1,448	1,328
Gonorrhea	385	442	735	781
Chancroid	1	9	6	11

CONDENSED MONTHLY REPORT

Michigan Department of Health Laboratories

	+	—	+-	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				1298
Diagnosis	34	454		
Release	69	240		
Carrier	26	453		
Virulence Tests	12	10		
Throat Swabs for Hemolytic				
Streptococci				774
Diagnosis	181	114		
Carrier	89	390		
Throat Swabs for Vincent's	70	418		488
Syphilis				9353
Kahn	1461	7798	91	
Wassermann		1		
Darkfield		2		
Examination for Gonococci	127	1205		1332
B. Tuberculosis				650
Sputum	87	513		
Animal Inoculations	3	47		
Typhoid				127
Feces	6	44		
Blood Cultures	1	30		
Widals	7	38		
Urine		1		
B. Abortus	1	40		41
Dysentery	1	32		33
Intestinal Parasites				13
Transudates and Exudates				321
Blood Examinations (not				
classified)				210
Urine Examinations (not				
classified)				386
Water and Sewage Examina-				
tions				503
Milk Examinations				116
Toxicological Examinations				
Autogenous Vaccines				1
Supplementary Examina-				
tions				209
Unclassified Examinations				1399
Total for the Month				17254
Cumulative Total (fiscal yr.)				134212
Increase over this month				
last year				1680
Houghton Laboratory—				
Examinations made—total				
for the Month				1888
Cumulative Total (fiscal yr.)				13478
Decrease over this month				
last year				404
Grand Rapids Laboratory—				
Examinations made—total				
for the Month				7586
Cumulative Total (fiscal yr.)				59521
Decrease over this month				
last year				195
Typhoid Vaccine Distributed,				
c. c.				1340
Diphtheria Antitoxin Distrib-				
uted, units				37103000
Diphtheria Toxin Antitoxin				
Distributed, c. c.				20480
Silver Nitrate Ampules Dis-				
tributed				7792
Scarlet Fever Antitoxin Dis-				
tributed, pkg.				171
Scarlet Fever Toxin Dick Test				
Distributed, c. c.				1410
Scarlet Fever Toxin Immuni-				
zation Distributed, c. c.				3832
Smallpox Vaccine Distributed,				
pts.				31360
Bacteriophage Distributed, c.c.				4949

THE EVOLUTION OF RADIOLOGY

J. H. DEMPSTER

(Editor Journal M. S. M. S.)

The story of the X-rays naturally includes an account of the development of our knowledge of light and electricity, and as we shall see of the vacuum as well. Electricity as a science is very modern though the phenomenon was first observed by Thales of Miletus (639-544 B. C.) who noted a peculiar attraction for light substances, of amber after being subjected to rubbing or friction. Interesting to note is the fact that electricity was used as a therapeutic agent as far back as (50 A. D.) when a freedman of the Emperor Tiberius was reported cured of gout from the shocks from a torpedo fish. Galen (131-201 A. D.) alludes to the therapeutic properties of electricity. Then for a period, coincident with the so-called dark ages, we hear nothing of electricity, magnetism nor light until the year 1600 when William Gilbert, (1544-1603) an English physician, published his "De Magnete." The very earliest accounts of electrical phenomena are associated with medicine. Gilbert's work was an attempt to clarify the confused ideas of the alchemists. He was physician to Queen Elizabeth and President of the Royal College of Physicians. Gilbert who gave us the word "electric" in reality laid the foundation of the science of electricity. His service to electrical science had its resemblance to that of Paracelsus in medicine. Both broke with tradition and began investigating anew. Gilbert's place in history is better understood when it is realized that he was a contemporary of Francis Bacon and that he died when Harvey was only twenty-five years old. In addition to his summation of knowledge of electricity up to his time, he discovered the magnetic lines of force and the north and south poles of the magnet. According to Millikan* there are no electrical theories of any kind that go beyond Benjamin Franklin's time (1750) apart from the discovery by the Greeks, namely, that rubbed amber had the power of attracting to itself light objects.

Stephen Grey of London in 1730 found out that electricity was conducted along metal wires. The early development of static electricity is associated with the name of Benjamin Franklin whose long life (1706-1790) was concerned with so many scientific and cultural activities. His kite experiment which demonstrated the electrical nature of lightning (1749) is well known. He maintained that electrical matter consisted of particles extremely subtle and he recognized the properties of metallic points "in drawing off and throwing on the electric fluid." His one-fluid theory of electricity was the vogue among physicists for a century and a half. The Leyden jar was discovered in 1745 and was immediately turned to therapeutic uses, the extravagant claims of which were investigated and largely dispelled by Franklin.

IMPORTANCE OF THE VACUUM

Curious as it may seem, hand in hand with the development of knowledge of electricity, we have the discovery of the entirely empty space or vacuum which was necessary for the subsequent invention and development of the X-ray tube. With the discovery of the vacuum is associated the name of Torricelli, a friend and pupil of Galileo, who first conceived the idea of vacuum

in 1643 by noting the empty space produced by a barometric column of mercury. Following this discovery in the next two centuries, we have many kinds of air pumps. Two are mentioned which have been found most serviceable in exhausting the tubes of early physicists, namely, the Topler pump (1862) and the Sprengel (1865). The importance of high vacuum pumps can scarcely be appreciated. Pumps in use at the present time can accomplish in a few seconds what would have required two hours a quarter of a century ago. It is possible now to reduce the pressure in scientific apparatus by means of modern air pumps so that only one in every 100,000,000,000 of the molecules originally present remains.* "This improvement in the technic of producing high vacua," writes W. F. G. Swann,** "rendered necessary for investigation in pure science, has made possible the electric lamps which we use today. It has rendered possible also the modern X-ray tube, an instrument not only infinitely more reliable than the weak and capricious tubes of twenty years ago, but controllable in intensity to amounts twenty times as great as those formerly attainable." Incidentally, it may be stated that it is through the perfection of high vacuum technic that the modern radio broadcasting station has been made possible.

THE HISTORY OF THE DISCHARGE TUBE

The immediate history of the X-rays is in reality the story of the so-called "discharge" tube. One of the earliest tubes, if not the first, was constructed by Watson in 1751. Morgan, an Englishman, was the next of note to experiment with the vacuum tube. Kaye says of Morgan's work: "It seems not unlikely that the first experimenter to generate X-rays—had he but known it—was Morgan, who in London in 1785, by boiling and so outgassing the mercury in a barometric 'gage' was able to obtain a good Torricellian vacuum, that an electric discharge was prevented from passing. This was a big advance in vacuum technic. Morgan used a piece of tin-foil wrapped outside the tube as one terminal. The tube presently cracked and we read that he obtained a beautiful green electric light followed by blue and purple colors."

In 1821 Davy experimented with discharge tubes and in 1838 Faraday made important discoveries of the dark space near the cathode. The same year Geissler in Germany devised discharge tubes with sealed-in terminals of platinum wire. In 1865 Hittorf is said to have discovered the peculiar radiation since known as cathode rays. Leonard, a French physicist, also experimented with the discharge tube so that England, France and Germany all came in for whatever there was of credit.

In the early eighties William Crooks carried the work of investigating the discharge tube perhaps farther than had anyone else. So extensive had been the work of this investigator that the discharge tube has come to be known by his name. The endeavor to ascertain the nature of cathode rays was not satisfied until 1897, when Professor J. J. Thompson discovered the electron. It was during his search for invisible

* The Electron, University of Chicago Press.

* Swann, Scientific American Sept. 1928.

** Loc. cit.

rays from the discharge tube that Roentgen discovered the peculiar form of radiation since so well known by his name.

A TRULY EPOCH-MAKING DISCOVERY

It would seem that the discovery of the X-rays was made from observing the effects upon a fluorescent screen of the phenomenon within the tube. In one of the most epoch-making papers* read before a scientific society under the title "Concerning a New Kind of Ray," Roentgen presented before the Physical Institute of the University of Wurzburg his ratiocination on the phenomena observed:

"If a Hittorf tube, a Leonard tube pumped sufficiently high, a Crookes tube or similar apparatus is covered with a rather closely-fitting shell of thin, black past-board, if then the current from a rather large induction coil is sent through this tube, and if a paper screen, covered with barium platinocyanide, is brought near the tube in a completely darkened room, the screen will be seen to light up brilliantly and to fluoresce, regardless whether the coated side or the other side is turned toward the apparatus.

"It is easily proved that the cause of the fluorescence has its source in the tube and in no other place.

"Most surprising in this phenomenon is the fact that some agent penetrates a black paste-board shell, which does not allow passage of visible or ultra-violet rays of the sun or of the electric arc, and that this agent can cause brilliant fluorescence. The next question is whether other bodies possess the same property, i. e., are transparent to this agent.

"It soon became evident that all the other bodies are transparent, but in greatly varying degrees. For example, paper is very transparent. Behind a bound book of about 1,000 pages, I saw the screen light up distinctly, the black ink of the print apparently offering no resistance. In the same way the screen lit up behind a double pack of cards. The effect of a single card between the apparatus and the screen could hardly be noted by the eye. Also, a piece of tinfoil had little appreciable effect; and only when several layers were placed one on top of another could a shadow be distinctly seen on the screen. Thick blocks of wood are transparent. Two to three centimeters of pine wood absorbed very little. A layer of aluminum, 15 cm. thick, weakened the effect very much, but was not sufficient to efface entirely the fluorescence. Hard rubber discs, even several centimeters thick, were transparent to the rays. Glass plates of the same thickness differed according to whether they contained lead (flint glass) or not, the former being much less transparent than the latter. If one holds his hand between the tube and the screen he sees the darker shadows of the bones in the lighter shadow of the hand itself."

This was back in the fall of 1895.

Roentgen's conclusions still hold good, namely, that the transparency of different substances (to the rays) assuming equal thickness, is regulated by their density. In roentgenography objects,

whether the various organs of the human body or objects in industry, are studied from the viewpoint of density. X-rays are produced whenever and wherever cathode rays come in contact with matter, whether it be the metal target or the glass walls of the X-ray tube. In Roentgen's experiments the "X-rays" resulted from contact of electrons or cathode rays with the glass walls of the tube.

Roentgen's discovery was proclaimed in December 1895. On January 25, 1896, the following appeared in the *Scientific American*:

PROFESSOR ROUTGEN'S WONDERFUL DISCOVERY

"There have been received from Europe by cable very insufficient accounts of a discovery attributed to Professor Routgen, of Wurzburg University. By the use of a radiant state of matter tube, a Crookes tube, it is stated that he has succeeded in obtaining photographic effects through opaque objects. It has long been known that ether waves of long period would pass through matter opaque to short waves, and that such a screen as is afforded by a plate of blackened rock-salt will sift out short waves, while long waves pass through it. In some unexplained way Professor Routgen it is claimed, has succeeded in affecting the sensitive plate with waves which had passed through the opaque body. Metals cutting off all rays alike would produce a shadow, so that a metallic object in a box or embedded in the human system could be made to give some kind of an image. The operations are said to have been conducted without a lens, entirely by shadow.

"This is about the substance of the reports. It is yet too soon to indulge in the wild possibilities that have been suggested for the process. When the details reach us, the process will probably prove to be of scientific rather than of a practical interest."

The *Scientific American* could not be censured for sensationalism. But this was during the precise nineties, before the advent of the yellow journal. On the other hand Roentgen had not become internationally known, for note the spelling of his name by one of the leading Journals of applied science in the Anglo-Saxon world.

AND THE END IS NOT YET

The discovery of the X-rays has revolutionized the physical sciences. In the early nineties physics was considered to have attained its limit, the only thing left for the student was to master the body of knowledge that had accumulated virtually since Newton's day. The discharge tube was brought out on state occasions to be exhibited and then returned to its shelf. The spectacular physical plaything was considered of no possible practical value. However, experience has shown that every advance in knowledge is sooner or later utilized and applied to the service of man. Says Sir Oliver Lodge:

"Perhaps one of the greatest discoveries that has been made in recent times is an enlargement of the category of energy, itself a comparatively modern term in physics, so as to include not only the long known and conservative forms—raised weights, coiled springs, chemical action, heat, light, and sound—together with such newer forms of energy as electric currents, electric charges, and magnetic fields; the list has now to be extended so as to include the very constitution of matter itself."

* A translation of this paper appeared in the April number (1923) of the *American Journal of Roentgenology* and also in the July number of the *Journal of the Roentgen Society*. London.

Contrast conditions immediately before Roentgen's discovery with the marvellous physical laboratories which grace the University campus today. The influence of the discovery is so far reaching that who will attempt today to delimit its bounds?

PHYSICIST AND CLINICIAN COOPERATE

The development of the science and art of radiology has been the work of two somewhat widely diverse callings, namely, those of the clinician and the physicist. The latter with the manufacturers have produced the equipment; the clinician has applied and devised new uses for it.



Exterior of Physics Laboratory, University of Wurzburg—The plaque reads as follows: "In diesem Hause entdeckte W. C. Roentgen im Jahre 1895 die nach ihm benannten Strahlen." (In this building W. C. Roentgen discovered in the 1895 the rays which have been named for him.)

The evolution of the X-ray tube has been described. The development of mechanism for the production of high tension current is a chapter in itself. Mr. E. C. Jerman* has given an interesting account of the development of mechanism for energizing X-ray tubes, from the early static machine and the occasional small induction coil to the perfectly controlled X-ray auto-transformer universally in use at present. Perhaps no other department of physical science has shown greater progress in the same period than the development of X-ray equipment. The early static machine was very unreliable and susceptible to changes in humidity. The second state in the development of activating mechanism was the induction coil and the milliamperimeter and the inch method of measuring penetration. The third stage was the invention of the X-ray transformer and the fourth was ushered in by the invention of the Coolidge tube and the auto-transformer which afforded much finer control of the various factors than ever before possible. The

principle of the hot cathode tube has been extended and modified to include tubes capable of very high voltage, such as two hundred and fifty kilovolts, and comparatively low milliamperage used in deep therapy, and tubes of comparatively low voltage and high milliamperage for fine radiographic work.

The early X-ray tubes were partially exhausted of atmospheric air or contained instead a rarified gas, nitrogen or hydrogen, the degree of hardness depending upon the amount of gas present. These tubes were capable of very fine radiographic work but were difficult to regulate. It required an artist to get the best results with them. The year 1913 is a notable one to the radiologist as marking the invention of the hot cathode tube by Dr. W. D. Coolidge. This tube revolutionized X-ray therapy and contributed towards exactness in radiography. The exhaustion of the air in the tube was carried to a degree never before attained. The function hitherto performed by the rarified gas was now to be performed by heating the filament of the cathode, hence the name "hot cathode" tube. The quantity of X-rays is regulated by the temperature of the cathode filament which is controlled at will by means of a rheostat.

Refinement of technic made possible by mechanical improvements has rendered the X-rays of greater service to medicine and surgery. All this has tended to make the work of the roentgenologist more highly specialized. A great deal more is expected of him than in the days of cruder mechanism.

It remained for the clinician to adapt the X-rays to the diagnosis of pathological conditions affecting the hollow viscera. For this purpose various opaque media have been employed. Advantage was taken of the radiopaque properties of the bismuth salts for radiographic study of the alimentary tract. Among the early workers were Hemmeter and Cannon. The work of the latter on the mechanics of the digestive tract is a pioneer work on the subject. Bismuth, however, had its disadvantages; it was expensive and in some instances toxic in the quantities in which it was used. It was superseded by barium sulphate, the insoluble salt of barium, which is universally used today. The Graham-Cole functional examination of the gallbladder has made necessary another contrast medium in the way of an iodine salt which under certain conditions renders the gallbladder visible. Forestier a number of years ago introduced lipiodol, a radiopaque iodine oil, which is now used in the diagnosis of certain pathological conditions within the thorax, as well as spinal cord, paranasal sinuses, and it has been used also to determine the patency of the fallopian tubes. The leaded catheter and solutions of sodium bromide are employed in the examination of the ureters and the renal pelvis. Air and its constituent gases have filled an important role in the examination of organs which can be brought into relief by the inflation of cavities in which they are situated. The withdrawing of cerebrospinal fluid and inflation of the space with air has facilitated the diagnosis of brain tumors and other abnormal conditions. The injection of sterile air or gas into the peritoneal cavity brings into relief not only the solid abdominal viscera but any adventitious growth or peritoneal adhesions.

THE NATURE OF LIGHT

There have been several theories about the nature of light but none of importance further back

* Radiology, Sept. 1925. Vol. V. No. 3.

than the seventeenth century. Plato and Aristotle thought that light was a property of the eyes, a view that is soon dispelled by experience with the photographic camera. Issac Newton (1642-1727) was the real pioneer in the study of light, as well as mechanics. His name is associated in particular with the law of gravitation.

The very law which moulds a tear
And bids it trickle from its source,
That law preserves the earth a sphere
And guides the planets in their course.

Newton proclaimed what was known as the corpuscular theory, assuming that a luminous body shot off small particles which travelled at high speed in straight lines. Newton's law to the effect that the intensity of light varies inversely as the square of the distance from the luminous object has an important application to X-ray calculations, both in radiography and radiotherapy, as well as the safety of the operator. Newton's theory is also known as the "emission" theory in contrast to the wave theory of Newton's Dutch contemporary Huygens. According to Huygens, light was a wave motion passing from luminous bodies into a substance called ether which is presumed to pervade all space. It was not until the nineteenth century, however, that the wave theory came to prevail over the so-called emission or corpuscular theory.

HOW THE X-RAYS DIFFER FROM VISIBLE LIGHT

The X-rays differ from visible light chiefly in wave length, which is measured in Angstrom units.* The wave length of visible light varies

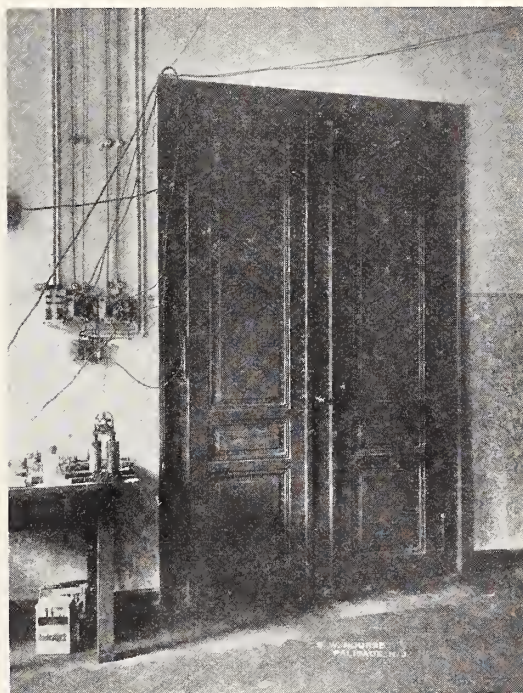


Interior of Laboratory—The laboratory is in active use today, but is said to be practically unchanged. One notes, of course, electric switches, conduits and outlets which were doubtless unheard of in 1895, but laboratory attendants say that the clock, benches, stools, etc., were actually used by Roentgen.

from approximately 3700 A. U. for the violet and 7000 for the red. The X-rays vary from about one-twelfth to one Angstrom unit. According to W. L. Bragg the wave lengths for X-rays are found to lie mainly between 10^{-7} to 10^{-9} cm.

The wave length of X-rays depends upon the voltage which produces them. A very high volt-

age produces X-rays of very short wave length known as hard rays which are of deep penetration. A hard ray does not work satisfactory in radiographing thin tissues owing to its great penetrability. The best detail radiograph is obtained by using the lowest voltage, therefore, the softest rays that will penetrate the tissues under examination. This enables us to get the delicate nuances and the high lights. It explains why the deep therapy X-ray machine is unsatisfactory for radiographic work and why the comparatively low voltage machine is not suited to deep X-ray therapy. The voltage produced by X-ray machines varies from 30 kilovolts to over 200.



A closer view of the famous door—Roentgen is said to have dismantled this door to determine why plates taken through it showed streaks and bands of decreased density. He demonstrated that the marks were shadows cast by white lead used in cementing the panel mouldings.

The electronic theory of matter is in effect that matter is made up of infinitely small particles separated by spaces infinitely larger than the proton and electron components of the atom.

The most recent theory of the atom serves to explain the penetrability of the X-rays into so-called solid objects, and here I quote from the latest work of Professor Eddington, *The Nature of the Physical World*.**

"The atom is as porous as the solar system. If we eliminated all the unfilled space in a man's body and collected his protons and electrons into one mass, the man would be reduced to a speck just visible with a magnifying glass. This porosity of matter was not foreshadowed in the atomic theory. * * * Thus for the first time the main volume of the atom was entirely evacuated, and a "solar system" type of atom was substituted for a substantial "billiard-ball." * * * Whatever

* Angstrom, A. J. (1814-1874) Swedish physicist Professor Upsala University. In 1867 he published his map of the solar spectrum which long remained authoritative on questions of wave length. The Angstrom unit is one ten-millionth of millimeter.

** *The Nature of the Physical World*, by A. S. Eddington, Professor of Astronomy, University of Cambridge, the MacMillan Company, 1928.

further changes of view are in prospect, a reversion to the old substantial atoms is unthinkable.

"The accepted conclusion at the present day is that all varieties of matter are ultimately composed of two elementary constituents—protons and electrons. Electrically these are the exact opposites of one another, the proton being a charge of positive electricity and the electron a charge of negative electricity. But in other respects their properties are very different. The proton has 1840 times the mass of the electron, so that nearly all the mass of matter is due to its constituent protons. The proton is not found

drogen; calcium whose atomic number is 20, is 160,000 times as effective as hydrogen. The human body is made up largely of carbon, oxygen, nitrogen and hydrogen; the bones are largely made up of calcium salts. Hence the explanation of the fact that X-rays which go through the soft tissues of the body are easily stopped by bone. The atomic number of an element is more important than its atomic weight as it represents a fundamental property of the atom, the positive charge on the nucleus. The atomic number indicates the element's place in the periodic series. It has been found that sometimes two or more slightly different elements have the same atomic number. These are known as "isotopes".

We have spoken of the quality of radiation. The quantity of X-rays depends upon the amperage, or rather milliamperage, since we always speak in fractions of an ampere, of current flowing from the anode to the cathode.

THE FLUORESCENT SCREEN

The platino-barium-cyanide screen is older than the discovery of the X-rays, as we have noted in Roentgen's epoch-making paper. Naturally the fluorescent screen was used very early in diagnostic work. The glow or fluorescence of the screen depends upon the quantity of the X-rays in contact with it. To shorten the time of exposure the principle of fluorescence is utilized in the making of radiographs. The briefer the time of exposure of the X-ray film the more satisfactory is the result both for the elimination of movement of the part examined and for the protection of the patient from radiodermatitis which may result from prolonged or repeated exposure. The introduction of duplitized X-ray films* with double contact of fluorescent screens has resulted in an era of improved technic. By the use of so-called intensifying screens the effects of the rays on the sensitive film are multiplied from two to four times.

RADIATION AND BIOLOGY

Reference has been made to the early use of electricity as a therapeutic agent. No one knows when radiation was first thought of as a restorative factor in connection with the health of human beings. The sun bath was already old in the time of Herodotus. The curative uses of sunlight are recorded in the Hippocratic writings. It is a far cry from the first account of light to the work of Sir Isaac Newton, one of the world's greatest masters of scientific research, who found that white light, as it is called, is composed of all the separate colors that comprise what we now call the solar spectrum. At a later time Sir William Herschel, one of the greatest astronomers, lit upon an important discovery, namely, that the different colors of the spectrum varied in temperature, that at the red end being the warmest. This discovery was made in 1800. The following year Ritter, a German chemist, found the chemical action of the extreme violet rays on silver and thereby made



Desk and chair of Professor Roentgen—On the top shelf of the desk are photographs of Roentgen's parents, and lying on the desk are various papers, among them Roentgen's Nobel Prize.

unadulterated except in hydrogen, which seems to be the most primitive form of matter, its atom consisting of one proton and one electron. In other atoms a number of protons and a lesser number of electrons are cemented together to form a nucleus; the electrons required to make up the balance are scattered like remote satellites of the nucleus, and can even escape from the atom and wander freely through the material. The diameter of an electron is about $1/50,000$ of the diameter of an atom; that of the nucleus is not very much larger; an isolated proton is supposed to be much smaller still."

According to Bertrand Russell* the capacity of ordinary matter for stopping the X-rays varies as the fourth power of the atomic number of the elements concerned. Carbon, atomic number 6 is 1296 times as effective as hydrogen in stopping X-rays; oxygen, atomic number 8, is 4096 times as effective as H. Nitrogen with an atomic number 7 is 2401 times as effective as hy-

* The development of photography is set forth in the following chronology: Porta described camera obscura in 1558; Niepce made permanent pictures by action of light upon bitumen in 1823; January 1st, 1839 Daguerre in France and Fox Talbot in England announced photographic processes; Sir John Herschel introduced glass plate negatives in 1840; Professor John W. Draper of the University of the City of New York made first photographic portrait in America in 1840; Schonbein and Botcher, Swiss chemists, made cellulose nitrate, now used for photographic film in 1847; dry plate process was invented in 1855; Dr. R. L. Madox prepared gelatine emulsion in 1871; Roentgen discovered X-ray photography in 1895.

* The A. B. C. of Atoms. E. P. Dutton Company, New York, N. Y.

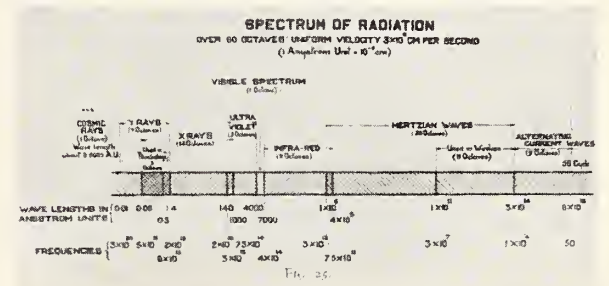
the first step towards the science and art of photography. The rays upon which Herschel experimented were called infra-red, that is beyond the red; they are known as "heat" rays. Ritter's rays were "ultra" violet. It is doubtful if the so-called infra-red rays have any curative effect upon the human body that is not possessed by any other form of heat such as the common inexpensive hot water bottle. The effective radiation from the sun consists of the invisible ultra-violet rays.

The simplest biologic effect of radiation is seen in tanning of the skin or sunburn by the sun's rays. Before the nature of X-rays and radium were known as now, many of the workers learned of their dangerous effects through bitter experience. Experience has taught that up to a certain degree of radiation the vitality and resisting power of living cells are increased. Beyond this we have destruction of the animal cell. Any bactericidal properties the X-rays appear to have, are not due to the direct effect on the germs so much as the stimulation of the bactericidal power of the body cells. The baneful effect of the X-rays on the growth of staphylococcus is well known. The effect of the X-rays on nerve tissue seems to be proved by the analgesic action and capacity of lessening pain and itching.

So salutary have been the effects of radiation on certain selected skin diseases that X-ray apparatus has come to be a part of routine equipment of the office of a dermatologist.

Embryonic tissue is very susceptible to the X-ray and radium rays. Bergonie and Tribondeau* in 1905 after extensive experimentation

changed in such a way as to influence the fate of subsequent generations. This effect is of particular interest. Professor H. G. Muller has studied the effect of X-rays on the inheritance of fruit-flies. A great number of spontaneously occurring, heritable variations have been recorded for these animals during the past twenty years. When wild fruit-flies are exposed to the X-rays the frequency of production of such variations (mutations) is tremendously accelerated. In a single generation more mutants are produced than occur normally in years. This effect of the X-rays is in reality a speeding up of the evolutionary process. Professor P. W. Whitney has demonstrated this same effect of X-rays on the wasp.



—From Kaye's Roentgenology.

The small, unshaded portion shows the proportion of the visible spectrum to the whole range from cosmic rays, the infinitely small through the Hertzian or "radio" waves the infinitely large.

Little and Bagg exposed mice to the X-rays and found that certain of the progeny developed abnormal feet, kidneys and eyes. These mice when bred had abnormal progeny. The defect has persisted in the descendants of X-rayed mice for a hundred generations as a Mendelian recessive. The production of a new inherited character, such as this abnormality in mice, has been interpreted as due to the effect of X-rays on the germ spasm, the mechanism of inheritance.

Not only the X-rays contributed to the science of medicine but they have enabled us to study anatomy and physiology without interfering with the normal vital processes. The morphology and position, as well as normal variations of both, the solid and hollow viscera may be observed without any particular inconvenience to the subject studied. No better method has yet been devised for the study of the mechanics of the digestive tract or the mechanics of respiration. The advantage of X-ray studies of the normal have been impressed upon men like Bernard Shaw who goes so far as to advocate the use of the X-rays as a substitute for vivisection which he condemns. There is no better single method of studying osteology, inasmuch as in a well made radiograph the detail structure of the bone is presented as not possible in any other way. In other words, roentgenography and roentgenoscopy, which means observation by means of the fluorscope, constitute a form of biopsy.

X-RAYS IN INDUSTRY

As we have seen, the first use of the X-rays was in diagnosis of lesions of the boney skeleton. Then followed their use in the diagnosis of pathologic conditions affecting the soft tissues. Their more recent application is in the examination and testing of materials in a great many branches of industry. The principle of observation of variations in density is utilized. There is the great



*An exhibit of tubes, targets, screens and magnets
used by Professor Roentgen in his early work.*

made the following generalization which has been known as the Law of Bergonie and Tribondeau. "Immature cells and cells in an active state of division are more sensitive to the X-rays than are cells which have already acquired their fixed adult morphological or physiological characters." Radio-therapy has been to a large degree based on this principle so far as malignancy is concerned; the malignant tumor is considered to bear a resemblance to embryonic tissue.

Biologists have been interested in the effects of X-rays on living cells, particularly the sex cells. The cells of testes and ovaries when treated with the X-rays, if not killed, may be crippled or

* The reader is referred to Radium and X-rays and the Living Cell by Colwell and Russ for a most thorough study of this subject.

advantage of enabling inspection without injuring the part in any way. It is the only means of detecting concealed defects. Among the uses might be mentioned the detection of defective oxy-acetylene welding, hidden cracks in metal, the examination of wooden parts of aircraft, the detection of foreign bodies in electrical insulators, differentiation of lead glass from more transparent genuine jewels. The X-rays are also valuable in detecting pictures of the old masters from spurious imitations.

Of non-medical uses perhaps the most important field is the employment of X-rays as agents in the various fields of research. Certain branches of physical sciences have really had their beginning with the discovery of the X-rays.

Perhaps as a parting word the writer cannot do better than to mention the various sources of information that he has found of untold value in connection with X-ray studies, among which are: Kaye, Roentgenology 1928, and Kay X-rays; The Atom and the Bohr Theory of Its Structure, Kramers and Holst; New York State Medical Journal; American Journal of Roentgenology; American Journal of Radiology; Journal of Roentgenology (British) for Roentgen's original paper (December 1895); The Electron. Millikan; Radium, X-rays and the Living Cell. Colwell and Russ; and a very recent work The Physical World, by Professor A. S. Eddington.

AS THE PATIENT VIEWS IT

(The Grace Hospital, Detroit, Bulletin)

The hospital's a sunny place,
The linen fresh and white,
A brown-eyed nurse comes through the day;
A blue-eyed one at night.

She'll rub your back and fix the bed
The radio and the light,
Then gives you just a little pat,
And leaves the whole room bright.

The window's opened just enough
To let the night breeze in—
She knocks: the angel comes again,
You have no thought of sin.

Her perfumed hair has touched your cheek;
The world is sweet, 'tis clear—
She whispers; and the sky turns bleak—
"I have your bedpan here."

"Thanks, not tonight," I softly said,
As hope within me stirred,
"The doctor ordered it, you know."
She would not be deterred.

Oh, bedpan, who invented you?
In what deep fires of hell
Did satan, in his vilest mood
Decide strong men to fell.

With this device, so cold and dead?
It humphs one like a camel,
I'd die 'neath lance and ether gas,
Not over white enamel.

Oh, come sweet day, and come on fast
Before my light has blinked,
When nurses nurse, and surgeons surge,
But bedpans are extinct.

—D. F. Strong.

GOOD FOR A COLD

(New York State Medical Journal)

A cold is the oldest of diseases. It is the form of sickness with which everybody is the most familiar, and yet it is the one about which doctors know the least. It is not strange that home remedies are numerous and are most contradictory in their nature. James J. Montague in his department "More Truth Than Poetry" in the Herald Tribune of December 14, discusses some of the sure cures in the following verses:

"You never ought to let a cold
Embrace you with a strangle hold,
Which may bring fevers, aches and chills
And even more appalling ills.
Be warned when you begin to sneeze,
The remedies for colds are these:
Immediately to bed repair,
For colds thrive on chilly air.
Stay out of doors the whole day through,
For that will still the worst 'kerchoo.'
Tuck three big meals in every day
And they will drive the cold away
No cold, however bad, can last,
If for a fortnight you will fast.
If you keep muffled to the neck,
You'll hold the direst cold in check.
No cold can get so very bad
If you go always thinly clad.
Take lots of quinine every night
And soon the cold will be all right.
No medicine that's ever sold
Will cure, or even help, a cold.
No cure in all this list I've shirked
And none of them has ever worked."

THE CRITERION OF A GOOD PHYSICIAN

One of the points in Public Health education should be the training of the public in the proper methods of selecting a physician. Everyone should know that the so-called medical doctors all have had practically the same fundamental medical training. That is, before the doctor can graduate or secure a license from the state to practice the healing art, he must have studied anatomy, physiology, chemistry, embryology, histology and pathology, obstetrics, surgery, medicine, etc., so that if a doctor is known to be licensed by the state one may be certain that his education is sufficient to embrace a knowledge of these fundamental medical sciences.

But aside from the educational qualifications of doctors, which we must leave to the state to supervise, how can the layman be assured that the doctor of his choice is one in whom he can place his entire confidence, especially if he is not personally acquainted with him?

The first step in establishing a doctor as trustworthy may be determined when it is known that he is a member in good standing in his County Medical Society. Mere medical education is not enough to gain entrance to the circles of organized medicine. Membership in the County Medical Society at once establishes the physician in courts of law, in business circles, and in the eyes of his professional brethren as being competent and ethical, and announces to the public that he has a trust to keep in maintaining the ethical standards of his profession.

A proper question from any layman to a doctor is: "Are you a member of your County Medical Society?"—Calhoun County Medical Society Bulletin.

THE JOURNAL

OF THE

Michigan State Medical Society

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Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M. D., Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

MAY, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

POST-GRADUATE MEDICAL WORK

A perusal of the bulletin of the Department of Post-Graduate Medicine of the University of Michigan and the Michigan State Medical Society indicates a vast amount of work in the preparation of courses of instruction in medicine, surgery, clinical anatomy and laboratory methods. The work in these subjects will be given in Detroit from May 27th to June 24th inclusive. The sessions will be held in the Receiving, Herman Keifer and the Children's Hospitals where the clinical material is abundant. Courses in Serology and Roentgenology will be given in the University Hospital at Ann Arbor. Many applications for enrollment for both the work in Ann Arbor and Detroit have been received. As the work will be intensive rather than extensive, registration is of necessity limited,

and applications are being accepted in the order in which they are made.

Under the heading Medicine and Surgery we have an interesting variety of topics. To enumerate a few: Case History and Library Research; Constitution; Draper has made an impression of this last subject with many during his visit to Detroit a year ago. Following his visit, an English translation of Pende's work has appeared. A discussion of the subject at this time will be found not only interesting but opportune since it is receiving consideration both here and abroad. The courses will also comprise physical diagnosis with emphasis on methods of periodic physical examinations. The subject of Physical Therapy will be presented. Probably no other branch of Therapy has received such attention within the past few years as ultraviolet radiation, galvanic and faradic currents and diathermy. Too frequently the only instruction available has been by representatives of manufacturing firms. These modes of treatment will come into their own when the physical effects are studied by clinicians. In other words the effects of electrical and radiation therapy upon the body and its organs must be studied and evaluated as have the effects of drugs as therapeutic agents.

Work will be given in cardiology, in metabolic diseases, paediatrics, allergy, tuberculosis, pneumonia, syphilology, endocrinology, infectious diseases, diseases of the alimentary tract, neurology and psychiatry. We have called attention to the importance of neurology and psychiatry to the general physician who is, so to speak, the first line of defense; he sees the neurotic patient first and if there is anything in prevention, the great factor in the work is the general practitioner who must recognize the case before it is pronounced enough for the specialist.

General surgery is provided for in a highly satisfactory way. Here are some of the subjects: shock, the septic hand, general surgical infection, spinal anesthesia, varicose veins, hernia, appendicitis, pre and post-operative care, goitre, osteomyelitis, and gallbladder disease. Work will also be given in orthopedic surgery, urology, proctology, thoracic surgery, gynecology. The course in clinical anatomy will make provision for those who desire to review general or regional anatomy.

The courses in serology at Ann Arbor will include a two weeks' intensive study of the Kahn reaction; advanced courses in

the serology of syphilis as well as courses in general medical laboratory methods.

The X-ray instruction will embrace a study of normal anatomy from the X-ray viewpoint, bone and joint pathology, pulmonary and cardiac diseases, gastro-intestinal diseases, superficial and deep therapy and ultra-violet and diathermy.

In addition to this regular course will be the annual two-day post-graduate clinic in Detroit June 18th and 19th, in conjunction with the Alumni Association of the Detroit College of Medicine and Surgery and the Wayne County Medical Society.

The personnel of the teaching staff has been selected carefully and well. The director and his committees are to be commended for such a splendid beginning in the way of systematic post-graduate instruction.

MEDICAL LEGISLATION

At the time of writing, a bill granting osteopaths the right to practice medicine and surgery has been reported out of committee at Lansing and has passed the senate by the required majority. To become law, however, the bill requires to pass the house of representatives and to receive the governor's signature. Such a circumstance would be a serious set-back to the progress of scientific medicine in this state.

The attitude of the medical profession has been misunderstood in many quarters and their solicitude for the public welfare has been interpreted as the prompting of self-interest. The advances in medicine as every physician knows have resulted from impetus within the profession, self-directed, and not from a demand outside that profession. The motives behind restrictive legislation have been construed as selfish, as working in the interests of the doctors rather than the interests of the people at large.

The sponsor of the osteopathic bill in a sort of casuistic argument sought to show that the training of the osteopath was superior to that of the graduate of such institutions as the medical department of the State University, the Detroit College of Medicine or Harvard or Yale, maintaining that the osteopathic school required more hours of college work than any one of these institutions. If such were the case, there is no valid reason why the well trained osteopath should not be satisfied with medical standards as they already obtain in this state. Why have a separate

board if their requirements are higher than those of the regular profession?

The time was in the memory of many in middle life, when there were several so-called schools of medicine: All have become extinct but the regular profession which endeavors to conform to the findings of pure science where the sciences can contribute to the healing art. There is no sectarianism in physiology, in chemistry, physiological chemistry. Recognition of osteopathy as a system of medicine and surgery is a retrograde movement towards medical sectarianism.

The corrective (should the osteopathic measure become law) will be the work of the board of basic sciences, presuming that when a student has had a full high school training and the prescribed college credits, together with the so-called basic science credit, he will see the folly of training in a sectarian institution of medicine.

MALPRACTICE AGAIN

We have it on good authority that members of the medical profession are threatened for malpractice or actually charged with this peculiar offense, at the rate of about one a day, the year round. It is generally known (we hope thoroughly realized in fact by each member) that the Michigan State Medical Society undertakes the defense of any member in good standing and whose dues are paid up to his County Society through to, and including the supreme court if necessary. This assurance is worth a great deal more than the price of membership in the Society; a fact that only he realizes who has been threatened or who has had to face such a charge.

Attempts are made frequently to make the doctor's lot a hard one. Among the measures introduced into committees during the present legislative session at Lansing is one placing the burden of proof of innocence on the doctor in the event of charge of malpractice or other brought against him. It is the custom in all English speaking countries that the person making an accusation against another must make good, or, in other words, the burden of proof is on the plaintiff rather than the defendant.

Another bill introduced is to the effect that it shall be considered a reprehensible act on the part of a physician (surgeon we presume) to perform any operation other than specified in his understanding with the patient. In other words, if in opening an abdomen to remove a diseased appendix,

the surgeon finds some other condition which might be corrected surgically he must permit his patient to come out of the anesthetic and obtain consent before he can go on with the necessary treatment.

It is a fortunate thing that all legislation is subject to revision by the supreme court whose duty it is to pass upon the constitutionality of it. Of course, in the event of the passage of such legislation defense in malpractice cases is rendered more difficult.

TUBERCULOSIS

This state has not succeeded in controlling the morbidity and mortality from tuberculosis as satisfactorily as we desire. Tuberculosis has long been classed among the preventable diseases and yet we are given to understand that in Wayne, the most populous county of the state and perhaps the county best supplied with physicians and institutions for the care of the tuberculosis patient, the death rate last year was higher than that of 1927. The remedy is eternal vigilance and education as to the nature of the disease and the method of its spread as well as the disciplinary method of affecting a cure.

Michigan, owing to the fact that it is an industrial state, attracts a young population. Tuberculosis is a disease of young adult life. In some of the larger cities of the state, thousands of young men and young women are housed in rooming houses not properly supervised from the viewpoint of sanitation. Often there is both poor ventilation and heating and improper nourishment, all of which is inimical to health. The tendency to urbanization of the young population is to aggravate rather than to improve the situation.

RENAL PHYSIOLOGY

Those who had the good fortune to be present at the Beaumont lectures held under the auspices of the Wayne County Medical Society, Detroit, had a rare treat in the way of first hand personal contact with results of fifteen years of important physiologic research. Dr. Richards, Professor of Pharmacology at the University of Pennsylvania, was the lecturer. Dr. Richards has been engaged in successful investigations into the function of the renal glomeruli. His experimentation and study have been confined to a large extent to a study of the frog. During his years of investigation he and his co-workers have developed a technic that involves a degree

of skill nothing less than wonderful. His contribution consists of a positive and direct demonstration of the glomerular function. He has been able to tap Bowman's capsule and to obtain and analyze the product from the glomerulus produced from the blood supply. Richards affirms Bowman's original filtration theory. The fluid is a filtrate resulting from selective action which under normal conditions keeps back the albumin permitting the filtration of soluble salts and water. Richards has been able to demonstrate the reabsorptive function of the renal tubule. The quantity of fluid produced by each glomerulus has been multiplied by the actually counted number of glomeruli in the frog's kidney. This total amount was found to exceed by far the total finished urine produced as an excretion and separate analyses showed a difference in concentration and that the glomerular filtrate had been deprived of important constituents in the convoluted tubules.

The persistence of the investigator, his unusual mechanical skill and his ingenuity in carrying out analysis of very minute quantities of the kidney's secretion are deserving of the highest commendation.

The Beaumont Foundation Committee is to be congratulated for adding another series of important scientific lectures to the very creditable list of past years.

THE MAKING OF A MEDICAL JOURNAL

We are wondering if the balmy days of the early part of April seduced our readers to the golf links or to the open road and thus prevented the reading of the April number of this Journal. Under County Society Activities the secretary of the Michigan State Medical Society, gave a somewhat detailed account of the various processes connecting with the parturition of copy (contributed articles and all other matter) in the form of this Journal as it reaches the desk of the reader. If you have not already read the comment referred to, please turn to page 338 April Journal. There are also other matters in the same department that should be of paramount interest to every practicing physician.

The complexity of situations, medical, legal and social have kept pace with those of industrial and social existence. In this article the secretary has indicated some of the problems that must be faced in the near future and others which must be met immediately.

A PRECEDENT ESTABLISHED

In a recent number of this Journal were noted two suits for malpractice in which the defendants were assessed damages. In both cases it is said they had failed to use the X-rays as an aid in the diagnosis of fracture. A physician undertaking to treat a fracture is presumed to use reasonable skill, that is, the skill of those having similar training and access to the same diagnostic means. The self-reliance of the physician located away from the larger towns and cities has often rendered him a better man than his city confrere. And he has accomplished wonderful results unaided. In these days of good roads and rapid transit there is not the same grounds for treating injuries without the use of recognized diagnostic aids as in former times.

Many times the doctor with the best of intentions refrains from the use of the X-rays to save his patient's pocketbook. Many physicians charge small fees and from their intimacy with the patient desire to see him get off as lightly as possible. Is there not a disposition to carry this feeling too far? It is only when an untoward result and a suit for malpractice occurs that we see the value the patient himself places upon the physician's services. There is no work a human being is called upon to perform that is so important as the service a doctor endeavors to render. He should so look upon it, and omit no means that will help to secure the desired result. We go so far as to say that in no case of possible bone or joint injury should an X-ray examination be omitted, not only for the aid to diagnosis but for the additional advantage of having the result checked over by a second person whose findings are a matter of permanent record.

FRACTURES

The textbooks go extensively into the subject of treatment of fractures. Besides, the various medical and surgical periodicals bring the subject up to date. A feature in the management of fractures that is apt to be neglected is the management of the patient himself. Prolonged inactivity almost always produces impatience on the part of the sufferer and causes him to seek other surgical service that may be sometimes none too tactful. Probably in no other pathological condition is the prognosis so persistently demanded by the patient at the time of the accident, and to allay his fears he is often told that it will

be only so many weeks, usually a much briefer period than it ever takes for satisfactory repair to take place. Of course, in the end this means disappointment to the patient.

At no time is frankness on the part of the attending physician or surgeon more necessary. An adult patient should be made to understand the condition present as well as possible contingencies which might arise, and in the event of a child, the parent or guardian should be made to understand. Preliminary radiographs made should be demonstrated to those interested. The effect of age on the process of repair, the nature of osteomyelitis as a complication, the effect of fractures into joint surfaces, possible causes of non-union, all should be gone into where there is intelligence enough to comprehend and where circumstances would warrant explanation.

The X-ray examination will usually show up the condition of the bones and joints if the radiographs are good. The fact should not be overlooked, however, that where there is enough force to break a bone or produce a dislocation, we have more or less severe injury to the soft tissues, blood vessels and nerves and tendons which does not show in an X-ray plate. This last fact is a very important item in the prognosis of fractures and one which at the present time is impossible of determination with any degree of accuracy.

And finally the importance of clinical records made at each examination and dressing cannot be overemphasized. In no other branch of medicine or surgery are careful and intelligent records more important.

THE UPPER ROAD IN MEDICINE

(Pennsylvania Medical Journal)

*I'm going by the upper road, for that still holds
the sun;
I'm climbing thro' night's pastures, where starry
rivers run.
If you should think to seek me in my old dark
abode.
You'll find this writing on the door—"He's on the
Upper Road."*

Rev. S. N. Hutchison, in "Moments of Quiet Strength," contrasts the ideals of service and riches, and gives food for thought to those engaged in or about to pursue the practice of medicine. Medical practice cannot be considered the approach to wealth. Nevertheless, like all professions or trades, it has two roads—the upper leading to service, the lower to personal aggrandizement, unethical practice, indifference, or personal greed. The true ideal of medicine is service to a sick and suffering humanity—the upper road—though at the expense of the physical comfort and even of the needs of those who travel it.

However, the needs have become so acute in some instances, and the cost of a medical education has grown so high, that it is a question whether there is not some method of bringing about a happy reconciliation of the ideal of service and the axiom that the laborer is worthy of his hire.

To the younger generation the upper road may seem steep; yet it is worth following, for when the peak of life is reached, the traveler may look down at the hardships of his career and see them merge into the beautiful sunset of him who has served.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. B. R. Hoobler of Detroit, Mich., has returned from a voyage around the world.

Dr. Walter J. Cree of Detroit has returned home after a two month's sojourn in Havana, Cuba.

You are just out of luck if you failed to pay your 1929 dues.

Remember the two-day Clinic in Detroit on June 18th and 19th.

Dr. Angus McLean who was a candidate for re-election to the Detroit Board of Education headed the polls at the election held on April 1st.

Dr. Llewlys Barker of Johns Hopkins University gave an address at the Henry Ford hospital, Detroit, April 17th.

The sympathy of our members is extended to Dr. Morris Fishbein by reason of the death of his eldest son.

The 56th annual meeting of the Northern Tri-State Medical Association was held at the Academy of Medical building, Toledo, Ohio, on Tuesday, April 9th.

While attending a recent meeting in Boston, Dr. C. B. Burr of Flint was taken with an attack of acute appendicitis. In the operation an acute gangrenous appendix was removed. Dr. Burr's progress is reported as being satisfactory.

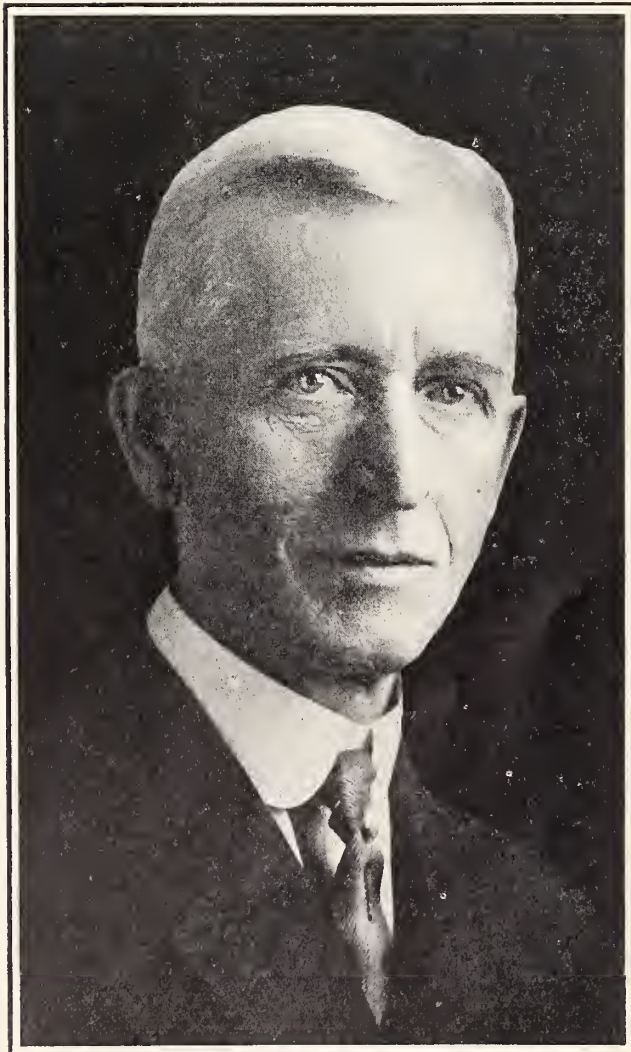
Remember the date of the annual session of the American Medical Association—Portland, week of July 8th. Some very interesting railway routings have been arranged. The opportunity of combining a sight seeing trip with attendance should cause a large registration from Michigan.

Dr. Thomas K. Gruber has been appointed superintendent of the Eloise hospital, succeeding Dr. Joseph Bennett whose death is recorded in this number of the Journal. Dr. Gruber goes to the appointment at Eloise after having served seven years as superintendent of the Detroit Receiving hospital. During his superintendency of the Receiving hospital, that institution has doubled its capacity and has been accredited rank as a class A hospital by the American College of Surgeons. Dr. Gruber is a graduate of the Western Reserve Medical school, Cleveland, Ohio, 1912. He became assistant superintendent of the City hospital, Cleveland after graduation, and in 1915 took a similar position at Harper hospital, Detroit. Dr. Gruber has been a popular member of the Wayne

County Medical Society and Michigan State Medical Society.

DR. CHARLES H. BAKER HONORED

On the night of April 24th the Detroit Otolaryngological Society gave a testimonial dinner in honor of Dr. Chas. H. Baker of Bay City. Dr. Baker is the Society's oldest Honorary member, and has always taken a deep interest in the affairs of the society and its work, and a large number of the members feel that they have honored themselves in thus honoring the doctor.



DR. CHARLES H. BAKER

Dr. Baker has been in the practice of medicine for almost fifty years, and has been active in the State Society all this time as well as an active worker for the upbuilding of all Oto-Laryngological organizations and sections.

The banquet was held in the Detroit Athletic club, and was an expression of the esteem and affection in which he is held by his fellow physicians. Few of us are able to look so far back and tell much of his boyhood days, but our spirit "warms" to the white, when we telescope over his years in medicine—all true to principle, all successful, all filled with charity to patient, and fellow physicians, all devoted to the highest ideals in the practice of medicine and find at the end of our scope a poor boy, rich only in ambition, and odd jobs. With these odd jobs and this ambition and an ever growing aspiration, we find him graduating from Hillsdale college with a Ph. B. and in the medical department of the U. of M. in 1880, graduating in 1882.

At the time of Dr. Baker's graduation, antiseptic surgery had hardly come into its own and the teacher of surgery often started a laparotomy with his favorite knife which he carried in his pantaloons pocket, without more than a preliminary rinsing, if it got even that. Bacteriology was unknown as a branch of medicine; pathology was a recommended but not required subject. Preventive medicine was just beginning to be talked of and quarantine was almost the sole weapon available against epidemics.

There was no diphtheria antitoxin; no vaccine against typhoid; malaria was due to some mysterious effluvia in the air; appendicitis was variously named typhlitis, perityphlitis and inflammation of the bowels, and was medically treated with hot or cold poultices according to the personal choice of the doctor in charge, or the bowel was locked up with opium in massive doses, even up to seven hundred grains in one case reported. Verily there were giants in those days or there would be none alive to tell the tale.

While employed in the hospital Dr. Baker had constant access to Dr. Frothingham's eye patients and enjoyed opportunities to see the doctor at work seldom enjoyed by the student of that day and he early decided to specialize in that line of medicine. An ophthalmoscope was his first purchase and as soon as he started practice he bought a trial case, both of which are still in daily use.

For seven years he practiced general medicine and surgery, the latter tending especially toward gynecology, when in 1889 Dr. Carrow received the appointment to the chair of ophthalmology and otology in the university and Dr. Baker succeeded him in his special practice in Bay City.

Two years later Dr. Baker spent several months in post-graduate work in London and Paris; again in 1900 and 1910 and was in Europe when the war came in 1913. He had the habit of going for a few weeks to the large clinics of this country once in each two years, and early joined the special sections of the A. M. A. where he contributed papers at many of the meetings.

He became a member of the American Academy of Ophthalmology and Otolaryngology by way of membership in the Mississippi Valley Society which he joined in its early days. He became a member of the Detroit Otolaryngological Society when there were but a small handful of members and about 1923 was elected to honorary membership in that society. He was President of Bay County Medical Society in 1890-1 and treasurer of the same society until tiring of a life sentence he succeeded in having the offices of secretary and

treasurer combined and automatically was deleted. He served two terms as councillor for the tenth district of the Michigan State Society and after six months absence from the council was elected President of Michigan State Medical Society in 1920.

At the meeting in Kalamazoo that year he presented the subject of State Medicine and Workmen's Compulsory Health Insurance, and aroused an interest which has not died out with the years since but is still a vital issue in medical economics.

He has taken an active interest in civic affairs and served a term on the public Library Board and two terms as member of the Board of Education of Bay City.

He served for four years as member of the U. S. Pension Board in Bay City and was a member of the Medical Advisory Board during the World War.

Dr. Burt Shurly was toastmaster and introduced the several speakers, who paid splendid tribute to the doctor's unflinching loyalty to his friends and scientific medicine. Dr. Walter Parker and Dr. Harold Wilson were the principal speakers.

DEATHS

DR. JOSEPH E. BENNETT

Dr. Joseph E. Bennett who was Superintendent of Eloise Hospital since 1921 and a member of the staff since 1913, died very suddenly of heart attack. He was 63 years of age. Dr. Bennett came to Eloise as a boy when his father, the late Dr. E. O. Bennett, became the first medical superintendent of the institution. Dr. Bennett was a graduate of the University of Michigan and at one time engaged in private practice at Wayne. Besides his wife Dr. Bennett is survived by one sister, Mrs. George P. Meyers of Detroit. He was a member of the Wayne County Medical Society and the American Medical Association.

DR COLIN MCCORMICK

After a protracted illness beginning the day after Christmas, Dr. Colin McCormick, of Owosso, one of the oldest practicing physicians of Michigan, passed away at noon April 1, 1929. He was born in 1843.

Dr. McCormick was graduated from the University of Michigan in 1872, the year that it became a co-educational institution, and often recalled the cool reception that the women on the campus received. Beards and high hats were in vogue among students then.

Dr. McCormick came to Owosso in 1875, at a time when it was often necessary for a physician to answer calls on horseback, because of the condition of the roads. At the time he graduated one could attend the university for a year at the same cost as for one month at present, he often declared.

He is survived by seven children, including Dr. Colin C. McCormick, of Detroit, who graduated from the University of Michigan 50 years after his father. The elder Dr. McCormick was founder of the Shiawassee County Medical Society, and served as mayor of Owosso in 1883.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

Announcing Post-Graduate Courses

in

Medicine, Surgery, Modern Laboratory Methods and Clinical Anatomy

at

Receiving Hospital, Detroit, Michigan, 8:30 to 1:00, May 27th to June 22nd, 1929

SEROLOGY—ROENTGENOLOGY

at

University Hospital, Ann Arbor, Michigan.

Auspices of

POST-GRADUATE DEPARTMENT OF MEDICINE, UNIVERSITY OF MICHIGAN

and

THE MICHIGAN STATE MEDICAL SOCIETY

POST-GRADUATE MEDICINE

The program announced in the March number of The Journal consists of the following hours of formal teaching:

RECEIVING HOSPITAL

Detroit, Michigan,

May 27th to June 22nd, 1929.

MEDICINE AND SURGERY

Case History	1 hr.
Library Research	1 hr.
Constitution	2 hrs.
Physical Diagnosis	3 hrs.
Physical Therapy	3 hrs.
Clinical Pathological Conferences.....	8 hrs.

MEDICINE

Cardiology	8 hrs.
Metabolic diseases	10 hrs.
Pediatrics	6 hrs.
Tuberculosis and other Pulmonary Conditions	8 hrs.
Syphilis	3 hrs.
Endocrinology	3 hrs.
Dermatology	3 hrs.
Infectious and Communicable Diseases	6 hrs.

Diseases of Digestive Tract.....	12 hrs.
Allergy	2 hrs.
Neurology and Psychiatry.....	10 hrs.
Diseases of Blood	5 hrs.
Preventive Medicine and Immunology	4 hrs.

SURGERY

General Surgery	30 hrs.
Orthopedic Surgery, including Fractures	12 hrs.
(Skull fractures included in General Surgery).	
Urology	8 hrs.
Proctology	7 hrs.
Thoracic Surgery	4 hrs.
Gynecology	10 hrs.
Surgery of Childhood	8 hrs.
Eye, Ear, Nose and Throat	4 hrs.
Anesthesia (spinal)	1 hr.

MODERN LABORATORY METHODS

The object of this course is to teach the laboratory methods of diagnosis in disease. Instruction will be given in the examination of urine, sputum, gastric contents, feces, blood and serous fluids. A fixed course including all these subjects has not

been established because it has been found more satisfactory to try to adapt the course to the needs of individuals. Any number of the above named subjects may be studied. The hours will be arranged for the afternoons so as not to conflict with other courses.

CLINICAL ANATOMY

For the benefit of those who desire a review in anatomy, covering the various specialties, the program will be divided into courses covering (a) head, (b) thorax, (c) abdomen, (d) pelvis and perineum, (e) anus and rectum, (f) extremities. Material will be provided for either a complete detail dissection of the parts or for local dissections in given fields, or for the practice of surgical procedures.

ANNUAL POST-GRADUATE CLINIC

In conjunction with the Alumni Association of the Detroit College of Medicine and Surgery, and the Wayne County Medical Society, the second Annual Post-Graduate Clinic will be held on the occasion of the College Commencement, June 18th and 19th. The program for this Clinic soon will be completed.

UNIVERSITY HOSPITAL, ANN ARBOR, MICHIGAN

SEROLOGY

Beginning May first and continuing throughout the year, two-week intensive courses will be given in the technic of the Kahn test. Personal advanced courses of longer periods in serology. Courses in general medical laboratory methods.

(Under the direction of Dr. R. L. Kahn,
Director of University Hospital
Medical Laboratories)

ROENTGENOLOGY

Six courses are offered beginning September first. With the exception of Course 1, only those with previous X-ray experience will be admitted.

Course 1—4 weeks. The study of normal X-ray anatomy.

Course 2—8 weeks. Acute and chronic bone and joint pathology.

Course 3—8 weeks. Acute and chronic pulmonary and cardiac conditions.

Course 4—8 weeks. The gastro-intestinal tract.

Course 5—8 weeks. Superficial and high voltage therapy.

Course 6—4 weeks. Ultra-violet radiation and diathermy.

(Under the direction of Dr. P. M. Hickey,
Director of Roentgenological Laboratories)

If the arrangement of courses does not meet with the needs of the individual, he is invited to confer with the Director in order that his special problem may be met if possible. Registration will be in order of application.

For further details communicate with the Director of Post-Graduate Medicine, University Hospital, Ann Arbor, Michigan.

PROCEEDINGS OF THE MARCH MEETING OF THE EXECUTIVE COMMITTEE

1. The March meeting of the Executive Committee of the Council of the Michigan State Medical Society, was held in the Hotel Olds, Lansing, on March 26th. There were present:

Councilors R. C. Stone, B. R. Corbus, James D. Bruce, Henry Cook, President L. J. Hirschman, Secretary F. C. Warnshuis, Editor J. H. Dempster.

2. On motion of Corbus-Bruce, the date for the Annual Meeting of our State Society to be held in Jackson, was designated as September 17, 18 and 19th.

3. On motion of Bruce-Corbus, arrangements for the two day clinic in Detroit in June was placed in the hands of a committee composed of Dr. Bruce, the President of the Alumni Association of the Detroit College of Medicine and Surgery, and the Secretary.

4. On motion of Corbus-Bruce, the Secretary was authorized to defray the ordinary expenses of the Conference Committee on Nursing Education.

5. Dr. Dempster, the Editor, and a member of the Committee on Medical History, reported that sufficient manuscript was now on hand to publish the first volume of the history. On motion of Corbus-Bruce, the Secretary was directed to secure this manuscript and to obtain from several book publishers bids for the printing of same.

6. Dr. Kiefer, Chairman of the Legislative Commission was present and reported in detail the legislative situation.

7. The Editor and the Secretary were instructed to assume a non-committal attitude in regard to all so-called extraneous public medical meetings that are not affiliated with the County, State or American Medical Association, and which may contemplate holding one of their sessions within the boundaries of Michigan. The policy of the State Society to be impassive

insofar as joining in with the sponsors for these extraneous meetings.

8. On motion of Bruce-Corbus, the Secretary was instructed to advise our delegates to the American Medical Association to exercise their own good judgment in regard to the candidacy of Dr. P. M. Hickey for the office of President-elect of the American Medical Association.

9. The Secretary presented a communication from the State Commissioner of Health in which he requested the advice of the Society relative to the follow-up work his commission has been requested to do in the national survey that is being made to determine the cost of medical care. On motion of Corbus-Bruce, the Secretary was instructed to write a letter to the State Commissioner of Health, same to be also signed by the President of the Society, expressing approval of his undertaking this follow-up work and according to him the endorsement of the State Society in such activity as he may manifest in this work.

10. Dr. Bruce presented a bill that had been introduced in the legislature relative to care of indigent children. It was the sentiment of the Executive Committee that the law was not conducive to the best interest of the patient or the University Hospital. The Secretary was instructed to make such representation to the Reference Committee of the House that has this bill under consideration.

The Executive Committee adjourned at 10 p. m.

F. C. Warnshuis, Secretary.

SUPERFLUOUS STAFF MEETINGS

Hospitals are developing a dangerous policy and ignoring the individual as well as collective interests of doctors when they encourage more than monthly staff meetings. In the first place staff meetings should only be concerned with medical administrative matters. Scientific papers and discussions belong and should remain as a County Society activity. Medical administrative affairs of hospitals may be adequately provided for during a single monthly session.

Scientific discussions belong to the County Society. It is not fair to the remaining group of County Society members for a minority staff group to deprive them of the educational scientific discussions.

County Society attendance and activity must not be jeopardized by frequent staff meetings that tend to discourage County Society attendance.

The individual and collective interests of doctors is far more greatly enhanced by the formulated objects and purposes of a County Society than by any influence or help extended by a hospital staff.

In Michigan, our State Society, our Councilor Districts and our County Societies are acquitting themselves in a most commendable manner of the responsibility of providing ample opportunity for post-graduate instruction. Ample provisions exist whereby one may remain abreast of scientific progress. Hospital staffs are trespassing when they assume to undertake such a role.

The recommendation is made to limit superfluous staff meetings and to remain loyal to your County Society. Staff officers who abet or inspire weekly or semi-monthly staff meetings are disloyal and are fostering a deplorable situation that has been well commented upon by the Secretary of the American Medical Association.

NOTES

Annual Meeting: September 17, 18, 19 has been selected as the dates for holding our annual meeting in Jackson. The Scientific Sections will meet on the 18th and 19th. The House of Delegates will convene on the 17th. Subsequent announcements will appear in each issue of The Journal.

Dues: Members who failed to pay their 1929 dues have been placed upon the delinquent list. Reinstatement can be obtained by payment of dues to your County Secretary.

Clinic: The program for the two day clinic to be held in Detroit June 18th and 19th will be printed in detail in the June issue.

Post Graduate Course: The four weeks of post graduate work, given under the auspices of the Post Graduate Department in Medicine of the U. of M. at the Detroit Receiving Hospital merits state-wide patronage. It is an opportunity that should not be overlooked. Interested members should arrange with Dr. J. D. Bruce, director, Ann Arbor, for enrollment.

American Medical Association: The 1929 annual meeting will be held in Portland, Oregon, the week of July 8th. Hotel reservations should be made now.

Representative Culver of Detroit is reported to be holding the vetoed chiroprac-

tor bill at Lansing with the purpose of passing it over the governor's opposition. It is also suggested that the osteopathic bill may be taken out of committee and passed in retaliation against the chiropractor vote, and that the professional qualifications act, setting a reasonable minimum of education for all persons who practice medicine, surgery and obstetrics, may be the only measure which never will get out of its pigeonhole.

The Governor vetoed the chiropractor bill for the simple and sufficient reason that, while sound enough in its provisions, it depended for its application upon the setting up of a licensing board provided in the professional qualifications act. As Representative Culver had held the latter in committee and refused to release it, there was no assurance that such a board would exist. Mr. Culver was himself responsible for the situation which forced a veto.

The Michigan medical profession in sponsoring the general qualifications act have not been concerned with "pathies." They have sought only a requirement that a man be well grounded in the fundamentals of scientific medicine, and the laws that govern health and disease. After that, they have made plain, they have no objection to any man's practicing whatever "pathy" he desires. The chiropractor bill complied with the provisions of the general qualifications act and had no opposition from the medical profession. The osteopathic bill does not comply with these provisions, and would permit osteopaths to practice not merely osteopathy but medicine, surgery and obstetrics without meeting the basic standards of education applied to other healers. It would permit them to change their standards from time to time without losing their full rights to practice all the branches.

To adopt this special law, creating a discrimination of lower and easier standards in favor of one "pathy", along with the chiropractor bill and kill the general qualifications act on which the chiropractor bill's regulation is based would be a vicious practical joke at the expense of the health of Michigan residents. It would be better that all the bills died for this session.—G. R. Press.

THE MONTH

Executive Committee Meeting, Bay City Conference, Details of Post Graduate Course, Program for Two Day Clinic in Detroit and Legislation—these in itemiza-

tion reflect the months activity in addition to the daily routine. Legislation consumed a very considerable portion of time, so much so as to preclude the preparation of copy for this issue. The whole story will be told in the June issue. In the meantime turn back to the April issue and perceive what your State Society is achieving by reading the article in this department on "Organizational Activity."

HOW THEY VOTED

In order that our members may know just how their Senators voted we impart the Senate Roll Call on the osteopathic bill:

Opposed:

NAYS—12

Barnard
Branson
Condon
Cowan

Engel
Gansser
Heidkamp
Lennon

Person
Richardson
Sink
Upjohn

In favor of passage of the bill:

YEAS—18

Atwood
Binning
Campbell
Conlon
Harding
Horton

Howell
Jankowski
Kolowich
Leland
Miner
Rushton

Skinner
Stevens
Turner
Van Eenenaam
Wood
Woodruff

Letters of thanks were sent to the senators who opposed the bill, while letters of regret were sent to those senators who favored the bill. Similar letters were also sent by the West Side Physicians' Association of Detroit. County Societies will do well if they will communicate with their senator and express thanks or regret according to how their senator voted.

PLEASE COMPLY

The Secretaries of the County Societies are respectfully urged by the Civic and Industrial Relations Committee of the Michigan State Medical Society to answer and return the questionnaire relative to "medical service in factory clinics," mailed to them on February 18, 1929. Out of 54 questionnaires mailed, only 25 have been returned to date, and without a response from each County Society it will be impossible to make a state-wide study of the problem.

Will the Secretaries of the counties who have not already sent in the questionnaire kindly mail it at once to Dr. Harrison S. Collisi, Chairman of Civic and Industrial Relations Committee, 1522 Grand Rapids National Bank building, Grand Rapids, Michigan.

OSTEOPATHY

"Osteopathy is an outgrowth from the primitive conditions prevailing on our western frontier in

the period preceding our Civil War, when educated physicians were few, opportunities for rational treatment were fewer, and boldness in assertion and action counted far more than exact conformity to scientific truth. The founder of osteopathy was one of the rude, itinerant practical bone-setters, probably often clever in his attitude toward the sick. Though unlettered, he was possessed of a positive philosophy that found a sympathetic hearing in the home of many an unlearned frontiersman, who would have been ill at ease under the ministrations of one trained in the nice theories of academic medicine. Osteopathy was and still is full of unfounded assertions regarding the normal functioning of the bodily structures, and the nature and proper methods of cure of disease, though of late years its more enlightened practitioners appear to be endeavoring to harmonize its practices with certain accepted scientific principles. It speaks much of "lesions," by which it means, not the commonly accepted pathological idea of morbid changes, but rather "any structural perversion which by pressure produces or maintains functional disorder." Of all parts of the body subject to lesions the "spine" is of fundamental importance, and "it is only in occasional cases of disease that no treatment is given to it." Treatment consists chiefly in correcting the structural perversion by manipulation with the hands, and thus removing the pressure on the functionally disordered organs or on nerves and blood vessels supplying them. The osteopath serenely, with a singly stroke of the hand, waves away the facts of scientific pathology. Says the prophet:

"I have concluded, after twenty-five years' close observation and experimenting, that there is no such disease as fever, flux, diphtheria, typhus, typhoid, lung-fever, or any other fever classed under the common head of fever. Rheumatism sciatica, gout, colic, liver disease, nettle-rash, or croup, on to the end of the list of diseases, do not exist as diseases. All these, separate and combined, are only effects. The cause can be found, and does exist, in the limited and excited action of the nerves only, which control the fluids of parts or the whole of the body." The cause of all disease is a "partial or complete failure of the nerves to properly conduct the fluids of life." *One can with difficulty suppress a feeling of admiration for the audacity with which time-honored scientific facts and principles are thus put aside. Osteopathy undoubtedly effects cures, but so does the medicine man of the savage tribe.*

—Lee's Scientific Feature of Modern Medicine.

MASON COUNTY

At a meeting of the Mason County Medical Society held April 18 the following officers were elected:

President—E. Geo. Gray, Ludington.

Secretary-Treasurer—Lois W. Switzer, Ludington.

E. Geo. Gray, Secretary.

MONROE COUNTY

Monroe County Society held its regular meeting, March 21, 1929. There was a large attendance. Dr. E. C. Davidson, General Motors Building, Detroit, gave a very interesting talk on "The Treatment of Burns in Children." He explained the method of the tannic acid spray. Method and results were shown by means of lantern slides.

F. Ames, Secretary.

GRAND TRAVERSE-LEELANAU COUNTY

Regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital on April 2, 1929.

The minutes of the March meeting were read and approved.

After the Secretary read the various letters from the State Secretary regarding medical legislative activities during the past month, he was instructed to write to Representative Culver and our own representatives in regard to the Osteopathic Bill.

Dr. H. B. Kyselka then gave a very fine talk on "Childhood Tuberculosis," illustrated by lantern slides from the Michigan Tuberculosis Association.

Dr. Minas showed many X-ray plates of both childhood and adult tuberculosis and other chest conditions.

The meeting proved very instructive with all members present participating in the very active discussion which followed.

E. F. Sladek, Secretary.

MACOMB COUNTY

The April meeting of the Macomb County Medical Society was held on Monday, April 8 at 12 o'clock, noon, at the Colonial hotel. The meeting was called to order by the President and the Secretary called the roll. There were 22 members present.

Dr. Moore reported for the Membership Committee, favorably in the transfer application of Dr. R. Lynch, from Mayne County Medical Society.

Dr. Bower, the President, urged every member to write to his Senator and Representative regarding the Osteopathic Bill.

The Secretary then read the correspondence.

Dr. Guy L. Kiefer, Commissioner of Health, was the speaker. He gave a detailed outline of "The County Healty Unit," which he advised should be adopted by County Societies throughout the state.

After some discussion by members, and questions and answers, the following resolution was made by Doctors Walpon and Croman, Sr.:

"That Macomb County Medical Society is favorable to the establishment of a County Health Unit."

This resolution was adopted by a vote of 12-10.

Meeting adjourned at 2:00 p. m.

J. N. Scher, Secretary.

JACKSON COUNTY

The March meeting was held Tuesday, March 19, in the English room of the Elks Temple. A chicken dinner was partaken of, following which the meeting was called to order by President Hungerford.

The Secretary gave a brief outline of the State Society's political activities. He urged that all members co-operate in carrying out the directions of the State Secretary.

The meeting was then turned over to Dr. Cox, Chairman for the day. He introduced as the speaker of the evening, Dr. Abraham Levinson, who is connected with the department of pediatrics of Michael Reese Hospital and Northwestern University Medical School, Chicago.

Dr. Levinson gave an extremely interesting as well as scientific talk on Meningococcus Meningitis. He stressed the necessity of spinal puncture in cases of convulsions and urged that we all use

Meningococcus serum freely and abundantly in these cases.

All in all Dr. Levinson's talk was one of the best and most instructive that Jackson County Society has ever had. His paper was discussed by several doctors present.

The meeting then adjourned.

Attendance 25.

BERRIEN COUNTY

The Berrien County Society held its April meeting in Benton Harbor Thursday evening, the 28th, at the Congregational church parish hall.

A complementary dinner was served at 6:30 for the speaker of the evening, Dr. Fishbein, editor of The Journal of the A. M. A. Sixty places were laid and there were many visitors from neighboring counties.

Following the dinner a short business meeting was held at which the application of Dr. R. L. Ingleright of Niles was voted upon for transfer of membership from the O. M. C. O. R. O. to the Berrien County Society. Dr. Fishbein then addressed the Society with a short talk on the present status of medicine, dealing with the high cost of medical care and so-called group or clinical practice.

At 8:15 Dr. Fishbein addressed a public audience of about 200 people, taking as his topic, "Fads and Quackery in Medicine."

This talk was more or less a desertation on the evolution of cults, from early inscriptions on Greek temples, through Mary Baker Eddy and on to the present day chiropractic with their mechano-therapy and salesmanship.

Dr. Fishbein's droll humor kept his audience in laughter. His facts and statistics and method of delivery kept his audience in the closest attention. The newspaper write-ups and communications in the local press made topics of conversation for a week following. Even anonymous letters were sent to the Secretary commenting on the persecution of the cults.

If you want to start something in your locality get Dr. Fishbein to give you a public talk and if they never heard of your Society before, you will have plenty of publicity in a short time.

The Berrien County Society wish to extend their yearly invitation to the members of the State Society who expect to visit this county, during Blossom Week in May to call on us. We will be glad to entertain and direct you and do everything in our power to make your visit worth while.

W. C. Ellet, Secretary.

LENAWEE COUNTY

The Lenawee County Medical Society met at "The Tavern" in Blissfield on the evening of March 21st. Dinner was served at 6:30, 19 members sitting down to a bountiful repast of roast lamb and all the "fixins." At the head of the table was our President, Dr. Marsh, and opposite him was our Honorary Member, Dr. R. M. Eccles of Blissfield. Dr. Eccles recently celebrated his 50th anniversary of practice in Blissfield, and during that time he has continuously deserved and won the love of everybody with whom he has come into contact, both within and without the profession.

A letter was read from the State Secretary, who asked the Society to take action concerning the new Osteopathic Bill (Senate No. 239). The Secretary was authorized to write a letter of protest

to the Chairman of the Public Health Committee of the Senate.

After the close of the business meeting, Dr. Howard Commings of Ann Arbor gave a very instructive talk on "The Practical Treatment of Eclampsia." The principal methods of treatment were:

- 1.—Elevation of the foot of the bed.
- 2.—Narcotization with morphine and chloral hydrate.

- 3.—After narcotization, colonic washings with 3 or 4 gallons of water at a temperature of 110, and stomach washings, leaving a few ounces of magnesium sulphate in the stomach.

- 4.—A dark and quiet room.

- 5.—Intravenous injections of 20 c.c. magnesium sulphate every 3 or 4 hours as the case demanded, or intravenous injection of glucose, especially well used after bleeding if the patient is plethoric.

Every one of the members present thanked Dr. Cummings for his thorough and delightful presentation of the subject.

C. H. Westgate, Secretary.

KALAMAZOO COUNTY

The regular meeting of the Academy of Medicine was held March 19th.

Dinner was served to about 55 members of the Society. There were only about 37 cards returned, as usual many came who had not signified their intention.

An afternoon dinner talk was given by Rev. G. W. Plews on "Amusing Experiences" in the Canadian army during the world war.

Dr. Lewis J. Hirschman of Detroit, President of the State Medical Society gave a very instructive talk on Fistula in Ano. His method of outlining these fistula and the surgical treatment necessary to bring about results was very well detailed and demonstrated by lantern slides. His findings indicated that our old conception of most of these being tubercular was entirely erroneous.

His paper was discussed by Doctors A. S. Youngs, C. E. Boys, B. A. Shepard and J. B. Jackson.

The business session was called to order by the President, Dr. Ward E. Collins.

The minutes of the previous meeting as printed in the bulletin were approved.

Dr. Thompson called the attention of the members to the coming election at which time an appropriation for the enlargement of Fairmount Hospital would be voted upon. He especially wished that Dr. L. J. Crum would remember election day.

Report of Committees.

Dr. Rush McNair reported the findings of his committee on M. A. Francoise and the family medical service. The report on the former was reversed and that on the latter was adopted.

Dr. Boys moved that the Academy express to the hospitals our gratification of their stand in regard to patients from the family medical service. Seconded. Carried.

Letters from Dr. Warnshuis regarding pending medical legislation were read and discussed. The legislative committee was given the power to formulate telegrams and letters and send them to the proper ones at Lansing.

A letter from the Child Welfare League was read. A committee to comply with their request has already been appointed. Those on this committee are Doctors Stewart, Hoebeke, Westcott, Crum and A. H. Rockwell.

Dr. F. Elizabeth Barrett, chairman of the

Public Health Committee was asked to look after the arrangements for the May pre-school clinic.

Dr. D. D. Lyons of Wayland, Mich., whose application for membership was read at the last meeting and passed by the board of censors was unanimously elected to membership.

Meeting adjourned.

GENESEE COUNTY

Meeting of Genesee County Medical Society held at Hurley Hospital, March 6th, 1929. President Benson in the chair. Minutes of the last meeting read and approved. A letter concerning the organization of a women's auxilliary and one concerning the present status of industrial medicine was read by the Secretary.

Dr. B. E. Burnell moved that the Secretary correspond with Mrs. Guy Kiefer in regards to the functions of a women's auxilliary. Motion seconded and passed. Dr. Carl Moll moved that the President elect a committee to investigate the organization of industrial medicine in Flint and report same to the State Secretary. The following committee was appointed: Dr. Winchester, chairman; Dr. Treat and Dr. Childs. A committee composed of Dr. B. E. Burnell, Dr. Don Knapp and Dr. M. S. Knapp was appointed by the President to draw up a resolution of sympathy for Dr. O. W. McKenna in his recent bereavement.

Dr. M. W. Clift of Detroit gave a talk on "The Value of X-ray Findings in Mastoid Disease."

Meeting adjourned.

Meeting of Genesee County Medical Society held at Hurley Hospital, March 20th, 1929. President Benson in the chair. Minutes of the previous meeting read and approved. Dr. C. Moll moved that the Genesee County Medical Society buy a full page ad in the year book published by the graduating nurses of Hurley Hospital.

A letter concerning Senate Bill 239 introduced by the osteopaths was read by the Secretary. Dr. Winchester moved that the letter be referred to the legislative committee and that they oppose its passage by whatever means derived necessary. Motion seconded and passed.

Dr. Winchester reported the results of the legislative committee's investigation of Dr. Ard's treatment of diabetic patients. Dr. Tupper moved that this report be accepted by the County Society. Motion seconded and passed.

Dr. F. A. Coller of the University Hospital gave a talk on "Toxic Goiter." Discussion followed.

Meeting adjourned.

Meeting of Genesee County Medical Society held at Hurley Hospital, April 17, 1929. President Benson in the chair. Moved that reading of the minutes of the last meeting be dispensed with. Seconded and passed.

Telegrams to and from Dr. Burr read by the Secretary. Dr. D. Knapp moved that these telegrams be spread in minutes of Genesee County Medical Society. Motion seconded and passed. Dr. Winchester reported the findings of the committee investigating industrial medicine in Flint. Dr. Winchester moved that the report be accepted by Genesee County Medical Society. Seconded and passed. Dr. Cook reported on the activities of the legislative committee concerning chiropractic and osteopathic bills. Dr. Tupper moved that Dr. Cook's report be accepted. Motion supported and passed.

Dr. Marshall moved the Genesee County Medical Society indorse appointment of Dr. C. Moll for

new member of Health Board. Motion seconded and passed.

Dr. F. W. Baske gave a talk on "The Surgical Diabetic." Discussion followed.

Meeting adjourned.

M. S. Chambers, Secretary.

MARQUETTE-ALGER COUNTY

The following extracts are taken from the minutes of meetings of the Marquette-Alger County Medical Society, and are given to you in the hope that the information here given will be found helpful in your practice. Only a few of the more important papers are here outlined.

Dr. C. W. Hopkins of Chicago, Chief Surgeon for the Chicago, Northwestern Railroad, spoke on "Fractures".

Dr. Hopkins emphasized the importance of after treatment and by-treatment and advised as little open operations as possible. In discussing fractures of the finger he emphasized, (1) always an X-ray; (2) use a roller bandage and not a straight splint; (3) X-ray again to see if fragments in line; (4) remove splint and roller bandage and commence passive motion about the second week—then put up in a modified splint and motion every other day for another week. He advised always a lateral as well as an anterior-posterior X-ray picture.

In open operations he uses the Vanadium plate and he recommended early removal of the plate—as early as third week.

He recommended reduction of many fractures under local anesthesia. He injects 100 c.c. of $\frac{1}{2}$ per cent novocain into area of fracture, waits 10 minutes, and is then able to work on the part for hours if necessary.

In compound fractures with tissue maceration or in any condition where infection is present or liable to occur, he uses hydrogen peroxide acidified with $\frac{1}{2}$ per cent acetic acid for irrigation—using two tubes, an in-going and an out-going tube. At the same time he gives two grains of sodium iodide T. I. D. by mouth. He states that this eliminates nascent iodine in the wound and prevents infection. At the same time he also restricts the diet, especially the proteins, as this causes acidosis. If a hemotoma is present it will absorb but also acts as a foreign body, so drain when you can.

He advised early reduction of fractures—the earlier the better as there will be less fibrin around the fracture and no great amount of exudate is thrown out. So if the fracture is not compounded, reduce early. He advised the aeroplane splint in shoulder joint conditions, as this position causes the glenoid cavity to be filled with the head of the humerus and thus we get better mobilization.

In cases of scaphoid or carpal bone fractures it is better to remove them at once because usually the blood supply and small ligaments are traumatized and the bones become honeycombed.

He emphasized the importance of the character of the violence causing the fracture and advised an X-ray at once and repeat after three weeks or so, as fracture may be missed immediately following injury. This is especially true of the skull and is explained by the fact that in time, absorption has taken place and fracture then readily discernible. A blister or bleb at the point of the impact is very diagnostic of fracture."

* * * *

Dr. Frank Smithies of Chicago, Professor of Internal Medicine of the University of Illinois

Medical School, who spoke on "Gastric Hemorrhage, Its Significance and Treatment"—

"The first case report was with hemorrhages from the stomach, kidneys and lungs, which proved to be a case of Hemolytic Endocrinitis. Another case presented the picture of gastric hemorrhage associated with the menstrual cycle, and he emphasized the point that in females with bleeding—vomiting blood—be sure to inquire into the possible relationship with the menstrual cycle. Another case developed numerous gastric hemorrhages which necessitated splenectomy, cholecystostomy and choledocholithotomy and finally fatal hemorrhage—all caused by amebiasis. Another case vomited a red pigment with no red blood cells—due to destruction of blood by distillate gases. This patient was cured by changing the occupation and giving iron and arsenic. A case of hemorrhage due to a blow in the epigastrium caused death in two hours. A case of a man in middle age, over weight, heavy eater and drinker who had gastric hemorrhage with hemorrhage into the pancreas, and hypertension and arteriosclerosis. He pointed out that often in such cases of heavy eaters and drinkers with sudden death a diagnosis is made of "acute indigestion," but that in most cases we have an acute perforated ulcer or acute pancreatitis. Acute indigestion does not end in sudden death. The last case was of a man with several recurring hemorrhages who was operated upon for duodenal ulcer—later had four more hemorrhages during the next two years—then developed rapid pulse, four-plus blood in the stool and with the hemoglobin going down and pulse steadily climbing and in a state of exhaustion. Abdominal exploratory was advised at which time a small mass was found in the duodenum which looked like the scar of an old ulcer. In spite of transfusion, the patient continued to bleed and in two weeks developed obstructive symptoms with severe pain and bleeding. A second operation was performed and it was found that this mass had grown in size, extending to the stomach and with nodules in the liver and peritoneum. This case developed a large inoperable malignancy from a small benign duodenum ulcer. Statistics show only 0.7 per cent of duodenal ulcers developing malignancy, and practically all cases extend to the gall tract or pylorus.

In summarizing these cases, Dr. Smithies gives his procedure in a given case of stomach hemorrhage. First—get a brief history of what has happened and examine the patient from head to foot. Be sure to eliminate occupation, picture-film contacts, vicarious bleeding in menstrual cycle, obstruction to cardia, endocarditis, splenic anemia, and trauma. After excluding these, about 85 per cent of gastric hemorrhage occur during the course of gastric or duodenal ulcer or gastric cancer. Cancer does not bleed copiously but rather seeps blood, while the ulcer is liable to bleed freely. Gastric ulcers bleed more freely than duodenal ulcers and are more serious.

Duodenal ulcer occurs four times as often in the male as in the female. Eighty per cent of peptic ulcer are duodenal, and hemorrhage is not immediately fatal, though one cannot tell whether hemorrhage will or will not be fatal. The mortality of the first gastric hemorrhage due to ulcer is only 3 per cent. Each succeeding hemorrhage is more serious as there is more tissue destruction with a deeper ulcer crater and there is more liability to perforation.

All cases of hemorrhage are potentially a surgical case, and he advises the patient when in

good condition between attacks and no symptoms, to be operated upon.

Never make the diagnosis of peptic ulcer under the age of 31 unless the person has had one or more gross hemorrhages, because in 2,800 cases of hyperacidity with stomach upset, etc., only one in 11 had ulcer, the others being cases of pyloric spasm associated with appendix, gall bladder or gastritis. Must have definite X-ray evidence after relaxation of spasm with belladonna.

He stated that peptic ulcer was not a disease of adolescence as stated in some text-books and that belching of gas, sour taste, etc., does not mean hyperacidity but rather hypermotility. In pyloric spasm we have an interference of the systole-diastole of digestion and we get acids passing to the mucous linings which are accustomed to alkaline reactions, and this change causes an irritation which in turn produces spasm and distress. Any acid of the stomach out of its normal position—is the hyperacidity syndrome.

With reference to occult blood tests, Dr. Smithies stated that a positive test means nothing unless the patient has been on the correct diet for three days. A positive test means that there is a bleeding point somewhere between the lips and the anal ring. A negative test means that there is no bleeding between the lips and anal ring and always tells us there is no malignancy in the alimentary tract.

Treatment—A hypothetical case of a patient brought in bleeding with a history of hemorrhage. After a diagnosis of ulcer is made the question arises, "Is the ulcer perforated?" If so, we will get local tenderness in some part of the abdomen—a localized protective spasm somewhere. If peritoneal irritation is present and if the hemorrhage occurred longer than ten hours, then let him alone! If when we see him he is exanguinated, with feeble pulse and lowering hemoglobin, then operate at once! In other words, up to ten hours—operate. If after ten hours, treat expectantly. The usual routine treatment outlined as follows:

(1) Put to bed—elevate foot of bed and put on right side if possible.

(2) Medicine—Give morphine $\frac{1}{2}$ grain with Atropine 1/400 grain intravenously. This is given to slow the heart and lower the blood pressure of the capillary bed. Repeat this in one hour if necessary for effect.

(3) If retching and only occasional vomiting then wash out the stomach with normal saline—temperature 110. This gets rid of clots which cause irritation and the heat stops hemorrhage. This empties the stomach and causes rest.

(4) No ice or cold bags on abdomen unless suspect a perforation and then only over point to localize.

(5) Use heat on abdomen—large fomentations and keep hot by a lamp, because heat

- (a) counteracts shock,
- (b) has a derivative action,
- (c) prevents painful spasms.

(6) Absolutely nothing by mouth. If thirsty, give fluid by rectum (high caloric enemata) consisting of glucose syrup; 50 per cent alcohol 1 oz.; salt solution 8 oz., and give by drop method. Also let patient chew wax or gum if thirsty, as this causes a flow of saliva. Do not give anything by mouth, until three days after hemorrhage ceases, which is evidenced by—

- (a) falling of the pulse rate,
- (b) increase of blood pressure,
- (c) temperature approaching normal,
- (d) hemoglobin coming up.

The stools tell us very little as they may be black for some time following hemorrhage. Twenty minims of Adrenalin with 10 c.c. water injected slowly into a vein may reach the capillary bed and cause contraction and stop bleeding. Coagulose and other styptics may be useful but only clear your own conscience.

With the patient approaching the second day, and hemoglobin about 40 per cent, R. B. C. 2,000,000 or lower—the patient is about stationary. Now, what shall we do? By all means do a transfusion but not with citrated blood, but with viable fluid tissue. Normal blood is the best coagulant and the greatest agent against shock and repair of damaged tissue. Transfuse as long as the patient needs blood—until blood is up to 4,000,000 or more. Do not leave transfusion to the last resort but give immediately. If we get anuria, transfusion causes a diuresis. Usually, this is all that is done for these patients. Diet—80 per cent carbohydrate diet. Small quantities of warm carbohydrate liquids made from flour, rice, etc., one ounce every hour and increase as patient's tolerance permits. Do not give milk, eggs or other proteins as this increases the HCI and also because protein food stays longer in the stomach. Do not give alkalis. Gradually build up the carbohydrate diet and maintain for six weeks a 70 per cent carbohydrate preponderance. Get in the vitamins, such as meat juices, carrots, etc. Also, give cod liver oil.

Salvarsan, 1.5 grams intravenously every four days, for about six injections. This is much better than Fowlers Solution. Give iron in the form of malt and iron.

Do not X-ray while we have bleeding as this may cause death by perforation. Do not X-ray until four weeks after hemorrhage has stopped.

Russell L. Finch, Secretary.

COMMUNICATIONS

Boston, Mass., April 20, 1929.

My Dear Dr. Warnshuis

Dr. Burr wishes me to express to you his sincere thanks for the very beautiful flowers sent to him from the Michigan State Medical Society. Also to you for your kindness. He has been seriously ill, but is now on the road to recovery I hope.

Again thanking you, I am

Gratefully yours,

Mrs. C. B. Burr

Annette W. Burr.

Ann Arbor, Mich., April 2, 1929.

Dr. F. C. Warnshuis, Secretary

Last summer you printed a review of the Michigan Hand-book of Hospital Law which was published by the Michigan Hospital Association. At that time these books were being sold at \$2 per copy, which was practically the cost of publication. We have a fair supply of them left and

will be glad to dispose of them at \$1 per copy as we would rather have them in service than to keep them on our shelves. A notice to this effect might be of interest to the readers of your magazine, and at the same time it would help us to dispose of our surplus.

Anything you can do to assist us in this matter will be appreciated.

Very truly yours,

Robert G. Greve, Secretary.

YELLOW FEVER MARTYRS GET FEDERAL PENSIONS

The House bill providing pensions of \$125 per month for army officers and enlisted men, or their widows or heirs, who took martyrs' parts in the yellow fever investigations carried on by army doctors in Cuba in 1900 has been passed by the Senate and now goes to the President for signature. There are 14 of these men, twelve of whom were privates. A pension for Mrs. Walter Reed, wife of Major Reed, who was in charge of the yellow fever work in Cuba, was provided years ago, but recent efforts to increase this amount above its present amount of \$150 per month failed in the House, the chairman of the Pensions Committee there maintaining that such pensions must be held down within "reasonable limits." The bill provides that the Secretary of War shall publish their names annually in the Army Register as a roll of honor, and that each of the men or their heirs shall be presented with a gold medal. The Secretary of the Treasury is to decide upon the design of these medals and \$5,000 is to be appropriated for making them.

The names to be carried on the roll of honor are: Walter Reed, James Carroll, Jesse W. Lazear, Aristides Agramonte, James A. Andrus, John R. Bullard, A. W. Covington, William H. Dean, Wallace W. Forbes, Levi E. Folk, Paul Hamann, James F. Hanberry, Warren G. Jerne-gan, John R. Kissinger, John J. Moran, William Olsen, Charles G. Sonntag, Clyde L. West, Dr. R. P. Cooke, Thomas M. England, James Hildebrand, and Edward Weatherwaks.—Science Service.

GNATS THREATENING SIGHT OF CALIFORNIA CHILDREN

Fifteen hundred children in the Coachella Valley Union High school, at Thermal California, suffering with serious conjunctivitis, or pink eye, due to the ravages of the California eye gnat, have caused the House Appropriations Committee to insert an item of \$12,000 in the Second Deficiency Bill, for the purpose of allowing experts from the U. S. Bureau of Entomology to go out there to see if they can destroy this pest.

The gnat, known scientifically as *Hippelates pujio*, is said to have increased to an alarming extent in the Coachella Valley in the last five years. It hovers in swarms about the eyes, noses and mouths of persons and stock. Small children are especially helpless against it. Over one-half the school children in this region now have serious eye trouble caused by the gnat, and ten per cent of them have contracted chronic trachoma.

Common house flies, according to Dr. Marlatt, act in Egypt somewhat in the manner of this Coachella Valley gnat. They will swarm about the eyes, causing all sorts of eye troubles, and sometimes blindness.

Florida is also having some trouble with eye gnats, he said.—Science Service.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

KAUFMANN'S PATHOLOGY—Reimann. Three Volumes. Price \$30. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia, Pa.

Kaufmann's Pathology is an English translation of the well-known extensive German text (to which have been added appropriate recent progress notes and additional illustrations) by Stanley P. Reimann, M. D., Pathologist, Director of Research Institute, Lankenau Hospital; Assistant Professor of Experimental Pathology, Graduate School, University of Pennsylvania.

In German this book has reached the eighth edition. The recent editions have been enriched in many directions, particularly from experiences acquired during the war. The author, Dr. Edward Kaufmann, is professor of General Pathology and Pathological Anatomy and Director of the Pathological Department, University of Göttingen. The illustrations adorning the text are numerous, in all 1,072, including 100 special drawings made by the Staff Artist of Lankenau hospital, Philadelphia. The text is with some few exceptions well arranged with appropriate heavy type headings, and divided into three volumes, and thirteen chapters. In the first chapter there is a discussion of the Organs of Circulation; chapter two, Blood and Lymph; chapter three, Respiratory Organs, and chapter four, Digestive Organs. This latter chapter comprises 816 pages. At the beginning of each of the three main divisions of volume I, one to five pages are devoted to a discussion of the fundamental normal and malformative architecture of the system described. These outlines are unusually good.

It is a bit strange, except from a development standpoint, to find under Respiratory Organs in chapter three the discussion upon the thymus, thyroid and parathyroid. The section upon pancreas is found under the digestive system, and that upon adrenals in chapter seven, preceding the urinary system. A very much better assignment would have grouped the endocrine units under one system since much is to be gained by using the concept that there are interrelative values to be gained especially in clinical and pathological interpretations.

One finds more than the usual satisfaction in reference readings upon the rarer pathological changes, for example: Acute Yellow Atrophy of the Liver, or Necrosis of the Pancreas, or Parasites of the Liver, etc. But marked disappointment is felt after perusing the discussion upon the pathology of the Appendix-V, which will hold a leading interest among a large number of readers from the surgical specialties.

Chapter five (226 pages) is exceptionally well written, especially the prelude descriptions upon Resorption, Canalization, Bone Disappearance, Normal Structure, New Bone Formation, Regressive Changes, etc.

The chapter upon sex organs has 83 pages devoted to the male organs and 263 pages to the female.

To practitioners who go to Germany, Austria, and Hungary for gynecological pathology, and have but little fluency in the German language, this chapter, if carefully mastered, will be better

than a post graduate course in German speaking countries, for here one finds the German viewpoints faithfully presented.

In the same section, readers of American literature will be surprised to find no reference to Endometriosis, a condition now so well-known, owing especially to the writings of Sampson and others.

Under the section Diseases of the Placenta, on page 1729, a subheading is worded "Views Concerning the Origin of the So-called White Infants." This is an oversight of the proof-reader who should have spelled the word infants "infarcts."

Chapter ten in volume III is given to the Nervous System. Here one is disappointed in not finding a section upon sinus and mastoid infections; the sources of such a large percentage of acute brain pathology. In chapter three of volume I, page 296, there is a very insignificant discussion of Inflammations of the Accessory Cavities of the Nose. Otitis Media and Mastoiditis in relation to brain infections is passed with only a brief reference.

To some readers who want a single dogmatic statement upon all undecided questions the painstaking presentation of diverting views will be tiresome, but to those of inquiring and scientific attitudes it will be satisfying to have this means for economy of time, making it unnecessary to consult other authors.

The Appendix (Bibliography) contains a very meager number of references to the literature in English, but an extensive number of references to the German literature.

The illustrations throughout the book, taken from the original text, are not excellent; those added by the translator are unusually good.

—JAMES E. DAVIS

RECENT ADVANCES IN OBSTETRICS AND GYNAECOLOGY—Aleck W. Bourne, B. A.; M. B., B. Ch. (Camb.) F. R. C. S. (Eng.). Second edition, 67 illustrations; 370 pages; price \$3.50. P. Blakiston's Son & Co., Philadelphia, Pa.

This series of monographs fills a valuable place in the medical library supplementing as it does, the more extended treatment of the various subjects. The present work will not supplant the larger and more complete text books on Gynaecology and Obstetrics. It does, however, contain the recent advances in the subjects unless the text book is very recent. Among the subjects treated in obstetrics are: Ante-Natal Care; A Review of Maternal Mortality; Remarks on Ante-Partum Hemorrhage; Puerperal Sepsis. And in gynaecology: The General Progress of Gynaecology; Sterility and the Fallopian Tube; The Ovarian Hormones, and The Use of the X-rays in Obstetrics and Gynaecology.

THE QUACKS OF OLD LONDON—C. J. S. Thompson; 353 pages; 35 illustrations. Price \$4. 1929. J. B. Lippincott Company, Philadelphia, Pa.

The quack like the poor we have always with us. He preys upon the weakness and credulity of human nature. The nature of quackery is determined by the age. This work deals with

quackery in London during the Sixteenth and Seventeenth centuries. Very little has been recorded before the Sixteenth century. The writer has given us a very entertaining and enlightening volume. "Medicine" he says, "appears ever to have attracted pretenders and it is the art in which they have been most successful. There have always been unfortunate sufferers in despair ready to become the dupes of charlatans and so in the Seventeenth century, we find the ranks of quacks were increased by a host of boasting rogues and cunning rascals, who flocked to London and soon became prominent in the social life of the time." They were, we are told, patronized by all classes from the king to the peasant. Then as now they thrived by advertising. The writer has presented his subject matter in such a way that the reader's interest is sustained to the end.

PROCTOLOGY—A treatise on the malformations, injuries and diseases of the rectum, anus and pelvic colon. Frank C. Yeomans, A. B., M. D., F. A. C. S., Professor of Proctology, New York Polyclinic Medical School; Fellow and Past President, American Proctologic Society; Attending Surgeon, New York Cancer Institute; Proctologist, the New York Hospital. With 417 illustrations and 4 colored plates. Cloth \$12, net.

Recognizing the growing importance of proctology as a specialty, Yeomans has produced a work which will assist materially in increasing the interest of every practitioner of medicine in this special field. From his large and varied experiences in large metropolitan clinics, as well as in private practice, he has presented a fund of information of great value.

He has drawn freely upon the work of Tuttle and other authors whenever necessary to make his work complete. The illustrations are clear and many of them original. The non-operative treatment of many of the minor diseases is detailed and the operative technic well described. It is a welcome and valuable addition to the library of any one who wishes to keep up to date in the specialty of proctology.

ATLAS OF THE HISTORY OF MEDICINE, ANATOMY—J. G. DeLint, Lecturer on the History of Medicine at the University of Leiden. Forward by Charles Singer; Price \$6. Paul B. Hoeber, New York.

This book consists of a series of descriptive prints illustrating the History of Anatomy. These illustrations are accompanied by complete verbal description and are arranged chronologically in sections as follows: (1) From the Earliest Times to Vesalius. (2) Vesalius. (3) From Vesalius to the Beginning of the Eighteenth Century. (4) Anatomy in the Eighteenth Century. (5) Anatomy in the first half of the Nineteenth Century. (6) Widening of the Field of Discovery. This work will be found a valuable addition to one's medical library, especially the book collection of the historically minded.

RECENT ADVANCES IN NEUROLOGY—W. Russell Brain, M. A., D. M. (Oxon) M. R. C. P. (London) and E. B. Strauss, B. A., B. M., B. Ch. (Oxon) M. R. C. P. (London); 38 illustrations; pages 411. 1929. Price \$3.50. P. Blackiston's Son & Co., Philadelphia, Pa.

This little book contains an abundance of interesting reading for both the clinician and the student of psychology. It is auxiliary text book of applied neurology. We are coming more and more to see the importance of an adequate understanding of the nervous system in the study of all pathological conditions whether surgical of purely clinical. The background of English physiology should go a long way to gain the confidence of the reader of this monograph.

THE MEDICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month.) Volume 12, No. 5. (Southern Interurban Clinical Club Number.) Octavo of 306 pages with 40 illustrations. Per Clinic year, July, 1928 to May, 1929. Paper, \$12; Cloth, \$16 net. March 1929. W. B. Saunders Company, Philadelphia and London.

This number of the medical clinics has a distinctly southern flavor not only in the geographical distribution of the contributors but in some of the subjects as well. Among the subjects presented are Pellagra by Dr. C. C. Bass; Tropical Sprue Epidemic in Tennessee by Dr. B. W. Fontaine; Dietetic Difficulties in the South by Dr. Fred W. Wilkerson. The remaining subjects are of a general nature. On the whole the volume measures up to others of the series which we have reviewed from time to time.

THE ELEMENTS OF THE SCIENCE OF NUTRITION—Graham Lusk, Ph. D., Sc. D., Professor of Physiology at the Cornell University, Medical College, New York City. Fourth edition, reset. Octavo of 844 pages. Cloth \$7.00 net. W. B. Saunders Company, Philadelphia and London.

In the fourth edition of this book, the author has made many changes and important additions to the facts of metabolism. The chapter dealing with diabetes mellitus is discussed minutely as well as the influence of insulin on oxidation. He also discusses from a scientific and research point of view, the influence of the thyroid and other internal secretions, in regard to their effect on metabolism and the science of nutrition. The author, as in previous editions of this book, reviews the scientific investigations upon which rest the present knowledge of nutrition, health and disease. The book is a very valuable asset to the practicing physician as well as to scientific investigator, as it not only touches the great field of nutrition metabolism but many other problems which are still in the process of investigation.

RECENT ADVANCES IN BACTERIOLOGY AND THE STUDY OF THE INFECTIONS—Henry J. Dible, M. B. M. R. C. P. Professor of Pathology and Bacteriology in the Welsh National Medical School. Published by P. Blackiston's Son and Company, Philadelphia, Pa., 1929.

This little book is one of the series entitled, "The Recent Advance Series," designed to give up-to-date knowledge along the several lines. Here we have a review of the most recent changes in the subject and the indications showing the lines upon which it is developing.

HYGIENE AND PUBLIC HEALTH—(Parkes and Kenwood) Eighth Edition. Revised by Henry R. Kenwood, C. M. G., M. B., F. R. S., Edin., D. P. H. Lon. and Harold Kerr, O. B. E., M. D. Edin., D. P. H. Camb. with 91 illustrations, including two plates. Price \$7. P. Blackiston's Son & Co., Philadelphia, Pa.

This work will be found invaluable for all directly engaged in public health work either as doctors or as sanitary engineers. It will have a large appeal to the medical profession in general in as much as the whole profession has always concerned itself with the prevention of disease. It is well written, a scholarly work, concise in its treatment of the various subjects that come within its scope.

FIRST RESULT OF COLD RESEARCH ANNOUNCED

Preliminary results of the study of the common cold being carried on at the Johns Hopkins Medical school and School of Hygiene have just been announced by Dr. James A. Doull to the Johns Hopkins Medical Society. Most significant of the findings so far are the facts that there is apparently no immunity to common colds, that no evidence exists of any association between fre-

quency of common colds and defects of nose and throat, and that poor breathing space probably does affect the duration of the cold.

These results were reported from the study of 181 medical student volunteers and are limited to the months of October and November, 1928, although the study is being continued. Dr. Doull emphasized the fact that this is a very limited class of subjects, all being adults of approximately the same age. Arrangements are being made to extend the clinical studies to children of the families that are now part of the epidemiological studies being made by the School of Hygiene.

Dr. Doull presented statistics of the presence or absence of nasopharyngeal defects among both those having colds and those not having any during the two month period. The nasopharyngeal factors included diseased condition of tonsils, adenoids, mucous membrane, septum, and pharynx and the presence or absence of tonsils and adenoids. No significant differences in these factors appeared between the two groups of subjects.

Of 87 men having good breathing space, only 13 or 15 per cent had colds persisting longer than 10 days. Of 23 who had poor breathing space, 10 or 44 per cent had colds lasting longer than 10 days. This suggests a relation between breathing space and duration of colds, but is not conclusive.

The relation between all respiratory diseases, such as colds, influenza, pneumonia, etc., is also being studied. During the recent influenza epidemic it was noticed that a big increase of colds with fever took place during December and January. Nasal obstruction and discharge were less frequent in the colds of January and December than those of the October-November period, while headaches and general malaise were more frequent in December and January. Some colds with fever did occur during October and November and this brings up the question of whether these earlier feverish colds were of a type different from those of the epidemic or whether they were of the same type and merely the earliest occurrences of epidemic cases—Science Service.

HUMAN MOUTH IS THE BODY'S ELLIS ISLAND

We do not merely dig our graves with our teeth, as dieticians often warn us. We welcome the causes of disease and death with our mouths. The common organ of speech and eating is also the way into our bodies for all kinds of germs and internal parasites, Prof. C. A. Kofoid of the University of California pointed out, in an address before the recent meeting of the American Association for the Advancement of Science in New York.

Strangely enough, though the mouth harbors many kinds of bacteria its population of protozoa, or primitive microscopic animals, is relatively limited. Only two species occur commonly, and these are among the organisms responsible for pyorrhea. The other protozoans pass on through, to establish themselves elsewhere inside us.

Commenting on the mouth as a gate of infection, Prof. Kofoid said:

"The vertebrate mouth from the standpoint of the parasitologist is one of the main portals of entry for parasitic infections of the digestive tract and its morphological annexes. In the case of civilized man, whose body is so generally protected elsewhere by clothing, shoes, hat and gloves, its relative importance becomes even

greater, especially when we add the additional factor of the mobile hand and opposable thumb, the use of implements and the infantile tendency to put anything the hand grasps into the mouth.

"The mouth of man is one of the greatest areas for contact with the environment. Through the posterior nares the inhaled air and the dust and germs collected from it on the surfaces of the nasal cavities have an indirect access to the buccal cavity. The food daily passed through the mouth, though weighing only several pounds, has passed through the hands of who knows how many hundreds of persons, sweating coolies rolling tea leaves in Chinese godowns, laborers in Arabia, Sao Paulo or Limon washing out coffee beans, Malays in Batavia roasting chocolate beans, negroes in Havana or Filipinos in Honolulu handling sugar, Mexicans picking oranges in Riverside, and so on through the long list of essentials and relishes that supply and embellish our daily menu. How far we should have to travel if we should attempt to subvert the rest of our bodies to the geographical range of environment which has been in contact with the foods and drinks which we daily introduce into our mouths. Truly, how provincial is the rest of our corporal substance in comparison with the travelled versatility of our oral cavity! How varied, too, are the substances which come in daily contact here with delicate mucous membrane. They range in temperature from below freezing to nearly boiling point and include both acids and bases, essential oils, fats and alkalis, sugars, salts and proteins of the widest range. Even under the most rigorous treatment of any mode of physiotherapy no other part of our body could receive daily so varied applications of the stimulating materials from the external world.

"The mouth is also a region of no little mechanical shock and impact. Powerful muscles bring the teeth in contact with food which is ground up and mixed with the saliva. The teeth upon which this impact is first received transmit the pressure to the delicate tissues which invest their imbedded surfaces, and thence to the bony alveolar sockets in which they rest. No other part of the body receives such an impact upon so restricted a surface, except possibly the soles of the feet of the hobo or the athlete."—Science Service.

FLU CONTINUES DECREASE, MEASLES IS PREVALENT

Influenza continues to decrease, although the number of cases reported is still abnormally high. For the week ending February 16, 9,482 cases were reported to the U. S. Public Health Service. This is a decrease of over 10,000 cases from the week before. Measles cases have become as numerous as influenza. For the week just ended 8,210 cases were reported. This may be only the usual seasonal rise, as this is the time of year when measles is prevalent. Still, the figure is considered rather high.

The epidemic of influenza spoiled what would have been an enviable year for good health by raising the death rate for the last quarter of 1928, statistics from the Metropolitan Life Insurance company show. The December death rate for influenza-pneumonia was 151.2 per 100,000, as compared with 102.5 in December, 1927. Since the epidemic continued into the first two months of this year, it is likely that 1929 also will have its health record handicapped.—Science Service.

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MASSIVE COLLAPSE OF THE LUNG

VERNOR M. MOORE, A. B., M. D.

GRAND RAPIDS, MICHIGAN

Massive collapse of the lung is an acute pulmonary condition produced when one or more normally aerated lobes suddenly lose their air contents and collapse. The condition was first described by William Pasteur, in 1890, in cases of post-diphtheritic paralysis of the diaphragm and intercostal muscles. Again in 1908, in the Bradshaw lecture, Pasteur advanced the theory that the condition was produced by loss of respiratory power, caused by paralysis of the muscles of respiration or by reflex inhibition of these muscles, followed by absorption of air in the lung. He reported in 1914 16 cases following 2,000 abdominal operations, and also after cases of injury to the chest wall.

Elliott and Dingley in 1914 reported 11 cases of abdominal operation followed by massive collapse. They believed that immobilization of the diaphragm and shallow respiration allow collapse of the bronchioles to produce this condition. In 1918 Crymble reported 15 cases following gun shot wounds. Sir John Rose Bradford in 1918 and 1920 reported, in cases of war wounds, followed by massive collapse, no post-mortem evidence of bronchial obstruction or pleural effusion which might interfere with aeration of the lung. He

believed that the cause of massive collapse was reflex spasm of the bronchioles. His cases included injuries to the chest, trunk, fractures of the pelvis and femur, gun shot wounds of the chest, and one case of a trivial wound of the chest followed by collapse of the opposite lung. Some injury was present in all his cases, and he believed that posture and insufficient expansion also play a vital role in the production of this condition.

Briscoe in 1920 thought that massive collapse was due to inflammation in the muscles of the diaphragm behind the peritoneum. Scrimger in 1921 reported seven post-operative cases among 540 abdominal and rectal operations. These operations were mostly for hernia and appendectomy.

* Dr. Moore graduated from the Literary Department, University of Michigan 1909, and from the Medical School in 1911. His practice is limited to Roentgenology. He is Roentgenologist for St. Mary's hospital, Grand Rapids, Michigan.

Elwyn and Girsdansky in 1922 reported a case of massive collapse after stab wound in the abdomen. Regan in 1924 reported one case following poliomyelitis. Ritvo in the same year gave a very excellent description of the condition and reported a case after operation following relief of adhesions in the right lower quadrant after appendectomy. Leopold in the same year found four cases in sixteen days, following ether anaesthesia for operation on inguinal hernia. Scott in 1925 made a complete study of all reported cases; sixty-four cases were found in the literature and four more were added, all of which were post-operative. Jackson and Lee in this year called attention to the relation between massive collapse and obstruction of the bronchi by foreign bodies, and believed that intrabronchial obstruction was the most important factor in the production of this condition. Churchill in this year added six typical cases of post-operative atelectasis, two following operations under local anaesthesia. He thought that massive collapse results from the combined action of weakened respiratory force and bronchial obstruction, and believes that the various factors shown by the numerous etiological agents can all be correlated under this hypothesis. Sante in 1927 and 1928 considers that reflex constriction of the bronchioles is the principal causal factor. Soloff in 1928 reported a case in a child aged two which developed collapse of the lung without any predisposing trauma but who had early pulmonary tuberculosis. Kletz in 1927 reported a case associated with acute meningitis.

SYMPTOMS

The symptoms as a rule usually occur following some injury or surgical operation and may develop regardless of any anaesthetic used. It may, however, occur without an apparent predisposing cause. The onset usually is within 24 hours after operation or injury. A sudden pain in the chest accompanied by cough and fairly profuse expectoration follows. The respiration and pulse become rapid and cyanosis is often present. There is a moderate but sudden sharp rise in temperature, and the leukocyte count is usually increased. At this time the physical examination may reveal a dull area in some part of the lung corresponding generally to an entire lobe. The heart and mediastinum are displaced towards the affected side, and the breath sounds over the dull area are diminished or suppressed. Bronchial breathing is

usually heard over the affected area. The ribs are more oblique and movement of the diaphragm is not seen. There may be some doubt as regards the physical findings on account of the difficulty in examining so restless a patient. Here the roentgen-ray which may be used in bed without disturbing the patient, will offer decisive evidence of the condition. The radiograms show an area of opacity not unlike a pneumonia in appearance. It corresponds to the outline of one or more lobes in area. Under the fluoroscope the diaphragm is high in position, or if the lower lobe is involved, its outline cannot be distinguished on account of it fusing with the opacity in the lung. Where seen it is high in position, and immovable. The trachea always and the heart, mediastinum usually, are displaced towards the affected side, which to my knowledge never is observed in pneumonia. This displacement is so marked that there can be no doubt as to the abnormal position of the mediastinum. The opaque area in the lung is of even density when seen early, but later may show some mottling. The density of the opaque area is usually less than that of the ribs, and less than fluid. The opposite lung will show some compensatory emphysema, with widened intercostal spaces and low position of the diaphragm.

REPORT OF CASE

T. G., age 14, was operated April 30, 1928, for acute appendicitis. One hour after the operation he was very restless and coughed considerably. The respiration was rapid, with dyspnea, and there was cyanosis of the finger nails. A dull resonance over the left chest, with almost complete lagging during respiration, was noted. Tubular or bronchial breathing over the left chest was noted on auscultation. The apex beat was between the nipple line and anterior axillary line. Radiograms made with the portable showed an opacity of the left lung field, increasingly greater in the lower lobe. The heart was displaced towards the left quite definitely. The left diaphragm is about three-fourths of an inch higher than the right, and the trachea is displaced towards the left side. Further X-rays were made the following day, and show a small amount of air in the left upper lobe. The trachea and heart were still displaced and the left diaphragm not definitely made out.

There is an increase in density in the lower half of the left lung field. On May 5, four days later, the opacity of the left lung is clearing up. The heart is still displaced slightly to the left. More air is seen in the upper part of the left lung. Patient went on to an uneventful recovery. He returned one month later, and there was free movement of the diaphragm on the side affected. The temperature reached 103.8 on the day of onset, but dropped to 99.6 the following day. The respiration reached 50 per minute following the collapse, and the pulse 150. On May 5, after the

symptoms had subsided, the consultant made the following note: "There is a small area of bronchial breathing with altered voice sounds, near the angle of the scapula, in the posterior portion of the left lung. There is an increase in the air content in the upper portion of the left lung. The apex beat is gradually coming back towards the right, and is now in the nipple line."

The white count, 4/29/28, was 16,200, with 80 per cent polys. The next day it was 10,400, with 75 per cent polys. The following day it was 11,200, with 73 per cent polys., and four days later, 10,600. The anaesthesia used was ether, but the amount administered was not charted. The operation began at 1:30 a. m., and ended at 2:05 a. m., with a total elapse of time of 35 minutes.

Case 2. (Courtesy of Dr. R. H. Denham)—C. M., aged 47, was operated on under ethelene March 29, 1927, for a right inguinal hernia. Within 24 hours after operation, the patient suddenly complained of sudden pain in the upper part of the right chest. The respiration became rapid, the temperature rose to 101.4, and the pulse was 140 per minute. He had a very anxious expression and was extremely dyspnoeic. I saw the roentgenograms in consultation and found the upper third of the right lung field opaque, the heart and particularly the upper mediastinum and trachea displaced markedly toward the affected area. The diaphragm on this side was high, and the intercostal spaces narrowed. The symptoms lasted about 24 hours and then quickly subsided. A subsequent radiogram, made the following day, showed the condition to have cleared up entirely, with the diaphragm and trachea having returned to their normal position. Patient made an uneventful recovery.

DISCUSSION OF THEORIES

Pasteur, as above stated, believed that paralysis of the diaphragm would cause a collapse of the lung. Sante has shown that phrenectomy, frequently used as a therapeutic measure in cases of tuberculosis, never causes such an atelectasis. That the collapse is not due to pressure of the compressed ribs is shown by autopsy findings where the lung is collapsed, while the chest wall is not. The theory of infection of the diaphragm cannot explain the sudden collapse of the lung following gun shot wounds. Lichtheim in 1879 artificially produced collapse of the lung by introduction of laminaria plugs into the bronchi. These swelled, producing total occlusion of the bronchi with resulting collapse. He found, however, that collapse of the lung did not follow if the pulmonary vessels to this area were tied. The introduction of a foreign body into the bronchus must completely occlude the bronchus before collapse occurs. It is probable that normally numerous areas in the lung are atelectatic, but are relieved by coughing. The introduction of lipiodol into the bronchi may cause collapse as reported by Hickey. Aspirated secretions, following operations

on the throat and head, have to my knowledge never produced a collapse of the lung. In no case of massive collapse has there been found at autopsy an obstruction in the bronchioles. The theory of Bradford, supported by Sante, that the reflex spasm of the bronchioles was a causal factor does not explain why a single lobe is involved, and why it does not occur on both sides. The theory advanced by Churchill seems to be the most logical. He believes that the collapse depends upon the loss of respiratory power from any cause, such as shock, reflex inhibition, or paralysis of the diaphragm and intercostals, infection or aspiration, is probably the beginning of this condition. There then may occur a more rapid alveolar absorption of air than is taken in through the bronchi. Partial collapse of the bronchi and bronchioles occurs. It would seem logical to assume that where the bronchiolar epithelium comes in contact with other epithelium that it can not distinguish between that and a foreign body. It reacts in the only manner known to it, namely, to produce mucus. With the formation of mucus, the bronchus or bronchiole becomes totally occluded. The absorption of air, distal to the plug, readily follows, which tends to collapse the lung, and suck the mucous plug still further into the bronchus. The aspiration of the plug, as done by Jackson, or by manipulation of the patient, with coughing, will serve to restore the atelectatic area to function.

DIFFERENTIAL DIAGNOSIS

Pneumonia is the most common disease which might be confused with massive collapse. The physical sign of displacement of the mediastinum towards the afflicted side does not occur in pneumonia and the characteristic roentgen findings make the differentiation positive.

Tumors may fill one side of the chest completely, but tend to displace the trachea and heart away from the mass. They never cause collapse unless they occlude a bronchus.

Chronic interstitial pneumonia may displace the heart towards the affected side, but the marked scar tissue formation seen on the roentgenogram, together with the totally different history and onset, should offer sufficient differentiation.

Pleural effusion displaces the heart away from the area of dullness or opacity and only draws the heart to the affected side in old cases where the pleura becomes thickened and the fluid partly absorbed.

TREATMENT

The patient suspected of massive collapse should have the diagnosis established by the roentgen ray. Then he should be rolled onto the uninvolved side and instructed to cough. Direct fluoroscopic observation will usually witness the rapid inflation of the affected area in a very short time. If this procedure fails, bronchoscopy should be done to eliminate the possibility of bronchial obstruction by tumor or foreign body. Any bronchial obstruction should then be removed, if possible. Inasmuch as these cases are most frequently observed following surgical operation, forced deep breathing at the conclusion of the anaesthetic by giving Co_2 will hyper-ventilate the lung and should be of value in the prevention of this condition.

SUMMARY

1. Massive collapse appears to be a distinct clinical entity.

2. The chief findings are sudden onset with loss of aeration of one or more lobes of a lung.

3. It most commonly follows injuries and operations below the diaphragm and in the chest, but is seldom seen after operation on the head and neck. It may occur without injury and occasionally from trivial injuries and where no anaesthesia, either local or general, has been used.

4. The roentgen picture is that of a dense opacity of the affected area with displacement of the chest wall, diaphragm, heart and trachea towards the area of opacity to fill in the space caused by the shrinking of the affected lung.

5. The most logical theory seems to be a loss of respiratory power from any cause—associated with reflex inhibition of the muscles of respiration and possibly a spasm of the bronchioles followed by a plugging of the bronchus with mucus.

6. The treatment consists in hyper-ventilation as prophylaxis—forceful expulsion of mucus by coughing or bronchoscopic removal.

7. It is probable that these cases are more common than reported and often diagnosed pneumonia.

8. The prognosis is usually good for complete recovery.

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JAVA APE-MAN LOSING HIS AGE

Pithecanthropus, the ape-man of Java, about whose skull, teeth and thighbone evolutionary battles have raged for more than a generation, is losing his age. He is younger than the much more nearly "modern" Piltdown man, or dawn-man, of Britain, in the opinion of Dr. Henry Fairfield Osborn, president of the American Museum of Natural History, who has reported his findings to the technical journal, Science. Dr. Osborn was led to his conclusions by a study of the animal bones and teeth found associated with the two skulls. Those found in the same neighborhood as the Pithecanthropus remains were of "Middle Pleistocene, and *certainly* not Lower Pleistocene, still less Pliocene." Setting the ape-man forward to Middle Pleistocene times brings him up to the time when the glaciers of the ice age covered most of Europe and of eastern North America; the first age assigned to him. Late Pliocene, preceded the glaciers.

Dr. Osborn states that he has written to a leading German scientist who has examined the animal bones to check over his findings again, because "unless it can be challenged it proves that

Pithecanthropus is another instance of the survival of a very primitive type of mammal in a primitive forested environment where food was plenty, there was little need of clothing, and safety was assured by concealment or flight rather than by combat with weapons." The revolutionary setting back of the English Piltdown man, or dawn-man, to an earlier date than the ape-man of Java, was also based on a study of bones. The remains of this being, a decided low-brow but still much more like modern man than Pithecanthropus was, were found in a gravel-pit, associated with the bones of quadrupeds of Early Pleistocene and Late Pliocene date. The mixture of animal bones of two geological periods indicates that the gravel-pit was formed by outwash from older gravel layers, which makes the actual date of Piltdown man uncertain, but, in the opinion of Dr. Osborn, undoubtedly earlier than Pithecanthropus.

"Thus," he concludes, "in the course of the last 18 years Eosanthropus and Pithecanthropus have changed places in the geologic time scale."—Science Service.

THE PHYSIOLOGY OF THE VASCULAR NERVOUS SYSTEM AND ITS CLINICAL SIGNIFICANCE

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The classical experiments of Claude Bernard (1851) established the existence of two sets of nerve fibers to the blood vessels. He observed not only that section of the cervical sympathetic trunk produced a dilatation of the arteries in the ear of a rabbit, but also that stimulation of the distal cut ends of the sympathetic trunk caused blanching (vasoconstriction). His observations have been confirmed by numerous experiments so that the presence of vasomotor fibers of a vasoconstrictor and vasodilator type are universally recognized.

While the physiological effect of the vasomotor fibers upon the blood vessels has been well established, yet the manner of distribution of the fibers is not so well understood. However, in recent years as the result of clinical observations upon persons operated upon for various vascular conditions in which the surgical attack was upon the vascular sympathetic nerves, a better understanding of the distribution of the vasomotor nerve fibers has been arrived at.

The most recent conception indicates that the distribution of these fibers with their relays is identical with the distribution of the vegetative nerve fibers to other visceral structures, i. e., those fibers which transmit inhibitory (vasodilator) impulses relay in the chain ganglia of the sympathetic system whereas those which transmit motor (vasoconstrictor) impulses relay in ganglia intrinsic to or on the vascular axis. In modern textbooks of human anatomy ganglia cells are described as existing in the plexuses of the subclavian arteries, the arch of the aorta, the thoracic and abdominal aortae, and the iliac arteries. The carotid body is doubtless the highest or the head ganglia of the vascular nerve supply to the brain, head and thyroid gland. This structure contains sympathetic nerve ganglion cells, and fibers pass from it up into the internal carotid nerve and from it down to the superior thyroid artery plexus. The stimulation of the nerve fibers from the carotid body as well as those which pass to the ganglia cells of the vascular plexuses cause constriction of the blood vessels, whereas stimulation of the fibers which relay in the ganglia of the sympathetic trunks produce dilatation of the blood vessels supplied by them. The diagram I shows in a schematic way the present conception of the course taken by the vasomotor fibers which arise from the thoracic portion of the spinal cord.

While a great deal of information has been obtained by laboratory experimen-

tion upon the vasomotor system yet our most conclusive proof has been obtained from clinical observation after interruption of the vasoconstrictor fibers by surgical methods; but further observations are necessary in order to determine more definitely the course followed by the vasodilator fibers. Clinical evidence indicates that they run in and as plexuses around the peripheral nerves.

That vasomotor fibers run for a greater or less distance upon the blood vessels was demonstrated by Lord Lister over seventy years ago when he severed all of the soft parts in the leg of a dog and observed that the blood vessels did not become paralyzed.

Jaboulay, Jonesco and Leriche were the first to observe clinically that interruption of the sympathetic nerves by both the ablation of the sympathetic ganglia, and stripping of the nerve plexures from the arteries produced dilatation of the arteries of the part supplied by the nerve structures thus destroyed.

The present idea is therefore that the vasoconstrictor fibers pass from the ventral horn cells of the spinal cord through the anterior root of the spinal nerves then leave the anterior root as white rami and pass to and through the sympathetic ganglia to intrinsic ganglia upon the vascular axis. Fibers arising from the ganglia cells of the vascular axis course upon the artery by forming plexuses about them and the fibers finally terminate on the capillaries. The vasodilator fibers arise from the ventral horn cells of the spinal cord and pass out in the ventral roots of the spinal nerves and leave the ventral roots as white rami and enter and relay in the ganglia of the sympathetic chains and from the cells of the chain ganglia fibers arise which pass out as gray rami. Those to the visceral blood vessels pass with the splanchnic and other visceral nerves to the viscera and there pass on to the blood vessels. The

vasodilator fibers destined to the blood vessels of the body walls and extremities rejoin the spinal nerves as gray rami and pass with them to the structures they enervate and when the blood vessels are reached the vasodilator fibers leave the accompanying nerve and pass on to the blood vessels and terminate by ending upon the plain muscle of the blood vessel walls.

Until quite recently all blood vessels except the cerebral were recognized as having vasomotor fibers. At various times since 1895 certain investigators have described vasomotor fibers in the cerebral vessels. Among these are Gulland and Stohr. More recently Forbes and Wolfe have definitely demonstrated the action of vasomotor fibers in the cerebral vessels. By stimulating the cervical sympathetic ganglia and observing the pial vessels through an airtight glass window in the skull they have observed a decrease in the diameter of the pial arteries which by micrometric measurements amounts to as much as 18 per cent in the arterial diameter, and by similar observations after stimulation of the central cut end of the vagus nerve a vasodilation of equal magnitude occurs.

The clinical application of the knowledge of the vasomotor nerves in the surgery of the vascular nervous system has been far reaching in the treatment of vascular diseases of the extremities associated with trophic disturbances and the demonstration of vasomotor nerves to the cerebral vessels leads to speculations which could not have been indulged in by the wildest of dreamers a few years ago.

That the presence of vasomotor nerves, and their function has been an important factor in drug therapy from the dawn of medical history is of common knowledge. The effect of drugs that produce hyperanemia (vasodilation) or anemia (vasoconstriction) have been used from time immemorial. Other measures such as the use of heat and cold have been in use since man first became acquainted with the effects of the elements upon his body.

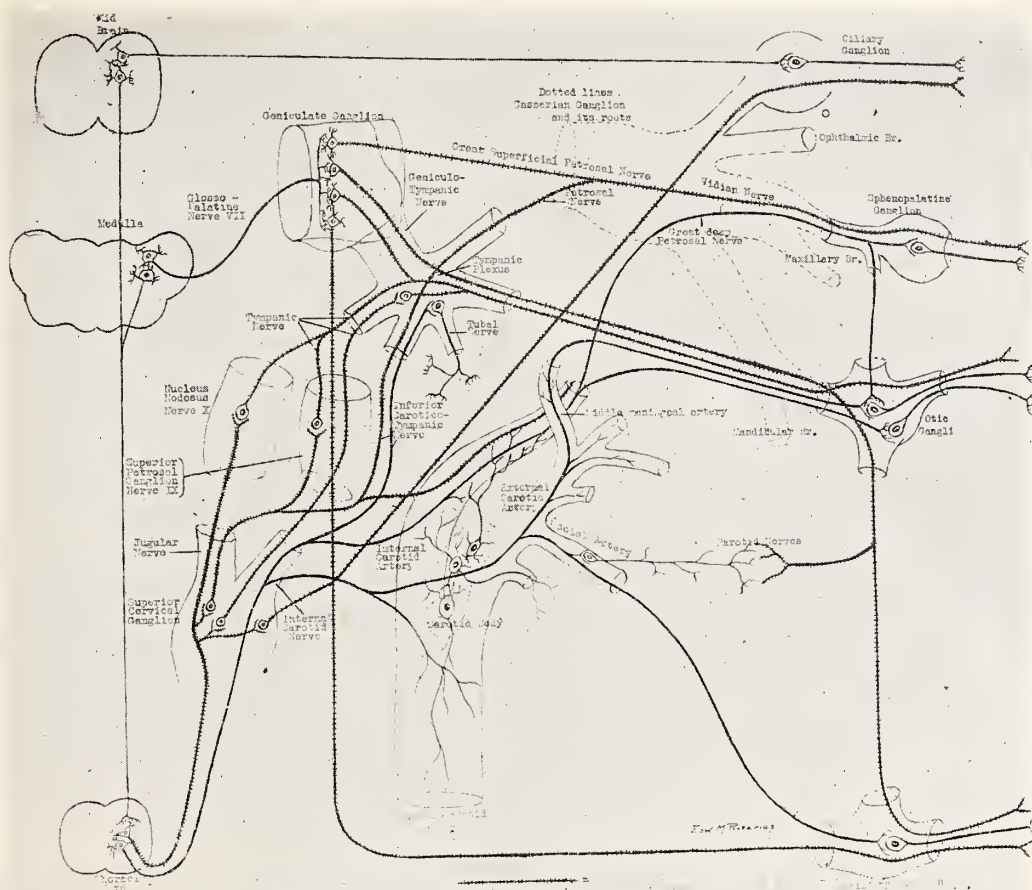
But the use of surgical measures had to await a more definite knowledge of neurovascular anatomy and physiology. This knowledge was quite meager when the first surgical attack was made upon the vascular nerves by Jonesco in 1905. Since that time we have learned a great deal more about both the anatomy and the physiology. Thanks to Leriche, an anatomist and surgeon; to Ranson, a neuro-anatomist; to Forbes and Wolfe, neuro-patholo-

gists and to Brown, a physiologist, and to others.

Relief for Raynaud's disease, chronic ulcers, thromboangiitis obliterans, gangrene, acroparesthesia, X-ray burns, chronic arthritis deformans, painful stump and certain traumatic conditions have been obtained by an attack upon the vasomotor nerve supply.

As we review the history of the development of the surgery of vascular nerve surgery, four stages are recognized. The first consisted of the development of periarteriorrhaphy. This was done largely by French surgeons. The second period consisted in the use of the operation of ganglionectomy combined with periarteriorrhaphy. The third which by some surgeons is regarded as the final stage consisted of a ganglionectomy plus a ramisection. At present I am strongly inclined to believe that a fourth stage or period is dawning in which injection of the periarterial sheath with 95 per cent ethyl alcohol will become the method of choice because it is just as effective as any of the other methods, it is without danger to the blood vessels, there is very little shock to the operation, it is not mutilating, the technic is simple, it is lasting in its effect, and it can be definitely limited to the part that it is desired to influence.

We have been using this method since last June. We have done the operation thirty-seven times and in no instance have we failed to secure a reaction, and no untoward results have followed. We have used it for (1) ulcers of various types such as chronic indolent ulcers, varicose ulcers, chronic traumatic ulcers, arteriosclerotic ulcer; (2) gangrene from frost bite, from diabetes, thromboangiitis obliterans and senile arteriosclerosis; (3) chronic arthritis deformans; (4) chronic post lethargic encephalitis, and (5) epilepsy. We believe that it can be used successfully for Raynaud's disease, X-ray burns, acroparesthesia, painful stump, intermittent claudication (we used it in one case with relief to the patient), and as a pre-operative measure in amputations for gangrene. It may prove of value in certain types of hypertension, atrophic rhinitis, migraine, tic douloureux, dementia due to cerebral arteriosclerosis, and possibly other mental conditions may be benefitted. While these suggestions may sound like wild speculations indicating that I may need an alcoholic injection myself, yet we must not forget that we are dealing with a fundamental vegetative mechanism when we are par-

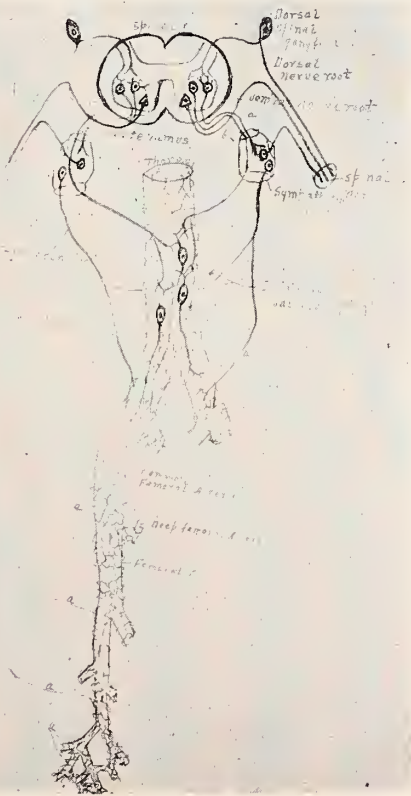


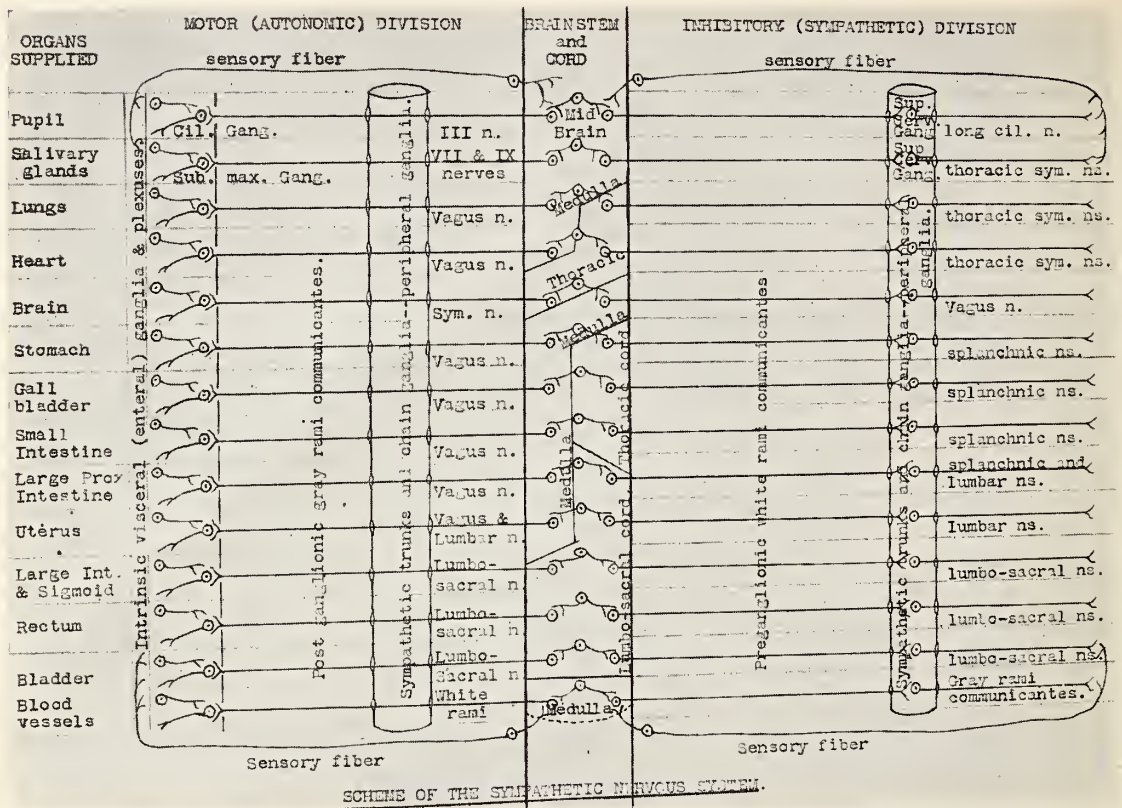
analyzing the vasoconstrictor nerve fibers to the blood vessels which transport the nutriment to the body tissues.

Those foods, drugs, and influences which can effect changes in cell metabolism are most potent factors in vital activity and certainly no factor is more potent in tissue metabolism than the blood. So therefore, any agent at our command which we can control in increasing the flow of blood to an organ or in relieving a vascular spasm, has potentialities far greater than any of the agents in common use among us.

Therefore I am optimistic as to the possibilities inherent in any method which will enable us to control or influence in any definite way for therapeutic purposes the vasodilator effect of the vascular sympathetic nerves upon the blood vessels with the resultant effect of increased blood flow with all its life giving properties to crippled body tissues and organs.

It is to be noted: (1) The motor sympathetic nerves do not relay after leaving the cord until the terminal (enteral or visceral) ganglia are reached and that they terminate on these ganglion cells. (2) The





inhibitory fibers relay in the ganglia of the sympathetic trunks and terminate by simple endings in the viscera. (3) The sensory fiber has its cell body in the dorsal spinal ganglion and terminates peripherally by a simple ending and centrally in the cord. (4) We regard the vagus as the motor regulator of the heart and the sympathetic as inhibitor to the vagus. The reasons for this view are: (a) Before the vagus becomes medullated the heart continues to beat at its embryonic myogenic rate. When the vagus begins to exercise its influence the heart rate slows to the

normal adult rate. (b) At operation we have had patients with rapid heart rates (130-140) and immediately after bilateral section of the sympathetic in the neck the pulse rate dropped to 68 and so remained during the rest of the operation and after convalescence. We conclude therefore that the sympathetic inhibits the vagus and thereby has a tendency to make the heart assume the primitive myogenic rate of early embryonic life. With the acceptance of this view our plan of arrangement of the sympathetic becomes uniformly applicable throughout its distribution.

PSYCHIATRISTS MUST ATTACK SOCIAL PROBLEMS TO HELP INDIVIDUALS

In an age that is essentially analytical, concerned with specializing and taking apart, psychiatrists are trying to build up personalities, declared Dr. James S. Plant, director of the Essex County, N. J., Juvenile Clinic at the sixth annual meeting here of the American Orthopsychiatric Association.

The family, home life, schools and industry are each withdrawing from the other, becoming specialists. In the day before the industrial revolution of 1800, industry, earning power and education were bound up with each other and with the home and family life, Dr. Plant observed. Today all that is changed. The psychiatrist is faced with the difficult task of trying to build up some-

thing, in a world where the reverse process is constantly going on. He is trying to integrate the individual's personality with home and work and social activities, when every force is toward disintegration of these different phases of life.

Psychiatrists must then attack social problems, Dr. Plant said. It is of little use to integrate people without integrating the milieu in which they live. Dr. Plant advised the psychiatrists to study modern social institutions, to find one that represented the probable future synthesizing institution, and then to give active and loyal support to it. He prophesied that this institution would probably be the school.—Science Service.

BRAIN TUMORS—NOTES ON SOME PROBLEMS OF DIAGNOSIS†

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DETROIT, MICHIGAN

Papers on the diagnosis of brain tumors have been presented before this society at previous meetings. The writer of the present paper is not, therefore, attempting at this time a full discussion of the subject, but is limiting himself to a consideration of the following three fundamental questions.

- I. The importance of the early recognition and localization of brain tumors.
- II. Reasons for delay in diagnosis.
- III. Suggestions for furthering early diagnosis and treatment.

I. We need make only the briefest mention of the first topic,—the importance of the early recognition and localization of brain tumors. The value of early diagnosis is recognized as a fundamental surgical law, and no one will deny that it is peculiarly applicable to neuro-surgery because of the delicately complex structure of the brain and its coverings, and the ease with which its functions are altered or destroyed.

Brain tumors produce destructive effects in two ways: First, by the direct destruction of the primary or secondary brain centers and pathways; second, by the alteration of the delicate balance between the blood-circulatory and the cerebrospinal systems through the pressure caused by obstructive hydrocephalus. The effects of pressure—venous congestion, edema, anemia, and medullary compression—occur in such varied combinations that the signs and symptoms may be confusing and thus the localization made difficult in many cases.

Malignant tumors of the brain, while they do not metastasize to other parts of the body, cause rapid and extensive destruction in the soft brain tissue, which offers little or no resistance to the invasion. Tumors that are histologically benign, usually become, sooner or later, malignant in their effects. The results of prolonged pressure or of destructive processes in the brain are a lowering of general vitality, the dulling of the mental faculties, the loss of special functions, and later the onset of stupor, coma, and finally death from medullary compression.

The highest aim of the surgeon should be not merely to substantiate his diagnosis by locating the lesion, but to determine the type, size, and location of the tumor early enough to give surgery its chance of relief or cure. When operation is performed

early, the surgeon encounters fewer difficulties, the risk to the patient is lowered, and the recovery from operation is more rapid. The result of surgical intervention cannot be called entirely satisfactory if the patient must endure blindness or paralysis the rest of his life.

II. In taking up the second topic—reasons for delay in diagnosis of brain tumors—we must recognize that great progress has been made within the last few years. Splendid results in diagnosis and treatment are being obtained in the larger medical centers and in many smaller clinics. But we still have patients coming to us with symptoms which have elsewhere led to diagnoses resulting in abdominal or other operations, ophthalmological treatment, or physiotherapy, and who have gone from clinic to clinic without securing relief until, often too late, the existence of a brain tumor has been discovered. In considering the reasons for delay in recognition and diagnosis of these cases, we must acknowledge that the condition presents subtle difficulties, of which the following may be mentioned as most important.

1. Brain tumors usually develop insidiously. They may attain large dimensions in a silent area without giving any signs. If they grow slowly, there is often an astonishing degree of accommodation, one center taking over the functions of a damaged one. Even the changes in the circulatory balance, if sufficiently gradual, can make considerable progress unnoticed.

2. Persons suffering from headache, nausea, or impairment of vision or hearing tend to overlook the symptoms or to explain them on the basis of indigestion, fatigue, or eyestrain. When they do go to their physician, they may go with a preconceived notion of the cause of their ill health, and may tell an incomplete story. Such cases test a physician's ability and thoroughness. It sometimes happens, also, that patients delay in securing medical attention because of financial difficulties.

† Presented before the Surgical Section of the Michigan State Medical Society, Detroit, September 27, 1928.

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3. There are cases in which the history and neurological findings alone are inadequate as a basis for diagnosis. The cardinal signs (headaches, vomiting, and failing vision) may not have appeared, or one only may be present, along with other confusing and conflicting symptoms. The early clinical picture may or may not include the secondary signs, such as mental changes, slowing pulse, and convulsions. These indefinite cases should be considered "tumor suspects," and every effort made to work out the diagnosis. At present, even in the best clinics, many cases remain as suspects, and are sent home without treatment. Some never return, either because they are not sufficiently impressed with the seriousness of the condition, or because they are not adequately followed up. Some of them, however, do return at regular intervals and our diligence is at times rewarded as we later find definite signs as a basis for diagnosis. Sometimes an early diagnosis can be safely made, based on but one of the cardinal and a few secondary signs correctly interpreted.

Two recent cases on our medical service illustrate the difficulty of early diagnosis. One was considered a nephritic coma and the other cerebral hemorrhage. Ventricular puncture with air injection showed them both to be brain tumors. Both died before exploration could be performed, and autopsy revealed in the first a huge frontal glioma and in the other a cerebellar glioma.

4. Sometimes the presence of another disease obscures the picture of brain tumor, or results in incomplete examination for the latter condition. A case which we are soon to see gives the story that he has been treated for a year for tertiary lues. He now has a primary optic atrophy, a bi-temporal hemianopsia, and X-ray shows an enlarged sella. The history suggests the presence of a pituitary tumor, which could have been diagnosed earlier had he mentioned his failing vision and field defects, or had they been discovered by more complete routine examinations.

5. In some cases the diagnosis is correctly made but the patients refuse operation, either because they feel it is hopeless or because they have been prejudiced against it by friends or even perhaps at times by their family physician. Three of our cases illustrate this tendency.

CASE 1

A young man of 25 (Fig. 1) had had headaches and defective vision for three months. An examination revealed an early papilledema and a right lower quadrantic hemianopsia. A brain

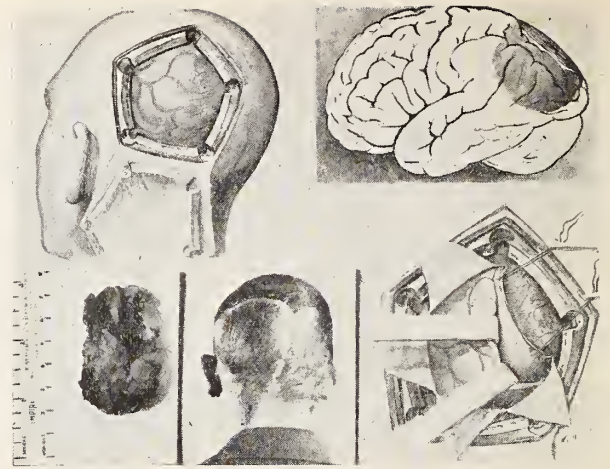


Fig. 1—Case 1

Location and operative exposure of left occipital meningioma. Tumor after removal. The patient a month after operation.

tumor was diagnosed, but he refused operation until nine months had passed and he was almost blind. At an exploration, we were able to remove a meningioma from the left occipital lobe. His vision did not return to any marked degree, and a year later the site of the previous meningioma was found to be occupied by a tumor mass, this time malignant. Had the first operation been performed earlier, the patient might be alive and enjoying good eyesight today.

CASE 2

A man of 45 had unmistakable signs of a posterior fossa lesion which was causing an obstructive hydrocephalus with a bilateral papilledema. He had also chronic sinusitis. In spite of treatment of the latter condition, he became worse and we strongly urged operation. He postponed it because his wife was seriously ill, and one day he died suddenly while in the bath tub. It was doubtless due to a tumor.

CASE 3

A woman 29 years of age (Fig. 2) came to us with signs of a right frontal lobe tumor. She at first refused surgical treatment, because she felt it was hopeless. After a delay of two months, however, we were able to prevail upon her,

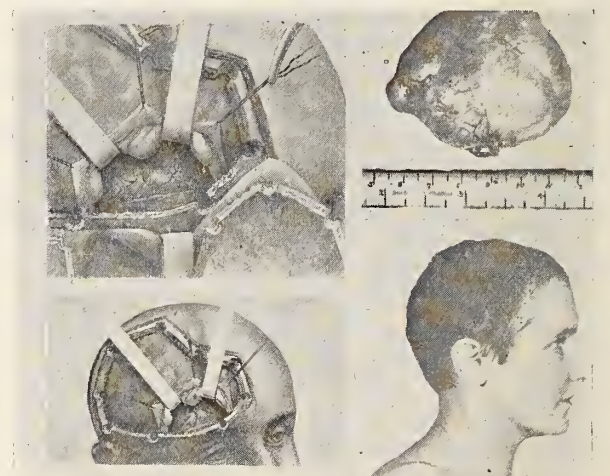


Fig. 2—Case 3

Right frontal meningioma exposed. Tumor after removal. The patient two months after operation.

through her family physician, to have an exploratory operation. A meningioma was removed from the right prefrontal region. After an interval of two years, she is still well, but has an impairment of vision, which would have been less if the two months' delay could have been avoided.

6. On the other hand, in spite of sufficiently clear symptoms of brain tumor, the diagnosis may be incorrect because of (a) too hasty examination or (b) too narrowly specialized interest on the part of the examiner. Case 4 illustrates the former of these reasons for incorrect diagnosis. The early signs of brain tumor are often obscure and complex, and conscientious thoroughness in the examining physician is necessary to elicit facts which the patient may be withholding through ignorance or misinformation.

CASE 4

A woman of 43 had been under the treatment of a good, but busy, eye, ear, nose and throat clinic for two years. Her chief complaint had been visual difficulty, for which several pairs of glasses had been tried without relief. She finally began to show ataxia in her gait and some deafness in her right ear. On being questioned she admitted that she had been stumbling for several months, and on several occasions had fallen, but had been ashamed to mention it, and that she had had periodic headaches, vomiting, vertigo, and right-sided deafness for nearly two years. She was referred to us for neurological examination and a right cerebello-pontine angle tumor was



Fig. 3—Case 4
Shows the herniation in the right sub-occipital region two years after operation for right cerebello-pontine angle tumor.

diagnosed. There was then a bilateral papilledema with five diopters' elevation, well marked cerebellar symptoms and complete right nerve deafness. Exploration revealed a large neurofibroma in the right cerebello-pontine angle which had become malignant. A subtotal removal was made and radium inserted, followed later by deep X-ray therapy. More than two years have passed, and she is seeing almost normally, and shows very little ataxia, but is still deaf. (Fig. 3). Her chances of real cure of course are less favorable because of the delay in treatment.

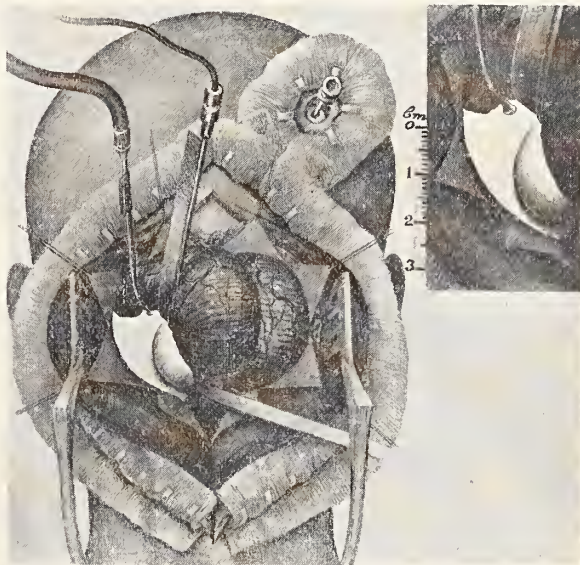


Fig. 4—Case 6

Showing the acoustic neuroma in the left cerebello-pontine angle. An intra-capsular removal was made of the tumor followed by insertion of radium.

(b) Present day specialization in medical practice tempts us to center our attention on the phases of a case which most interests us, and we often fail to consider the patient as a whole. The failure may be due to lack of broad training and experience on the part of the examiner, as well as to lack of interest in conditions lying outside his specialty. Three cases will serve as examples.

CASE 5

A woman of 48, examined in a well known clinic, gave as her chief complaint symptoms which led to a diagnosis of gall stones. She was referred to a general surgeon who concurred in the diagnosis, and she was prepared for abdominal operation. She developed, however, a severe headache, which led to further investigation and a neurological examination. A right acoustic neuroma was diagnosed and removed before the gall stones were attacked. The neurological examination might have been done earlier in this case had not the gall stone picture been so definite and the examiner so easily satisfied to end his investigations.

CASE 6

A young man, aged 26, (Fig. 4) was living in California. While there he developed an iritis which was treated by an excellent eye specialist. A sinusitis was also present. Both seemed to clear up under treatment. Later he was trans-

ferred to two other specialists and while under their care, developed progressively left-sided tinnitus, deafness, and later ataxia, headaches, vomiting and blurring of vision. These symptoms were apparently all explained as a labyrinthitis from the sinusitis. He has brought to Detroit last August. By the time we examined him he had a bilateral papilledema with two diopters' swelling, a well marked left cerebellar syndrome with vision limited to counting of fingers on the right and light perception on the left. There was practically complete left nerve deafness. A left acoustic neuroma was diagnosed and an intracapsular removal done, followed by the insertion of radium. When last seen his papilledema was subsiding and cerebellar signs disappearing, but the operation should have been done several months earlier.

CASE 7

A woman of 38 had been treated by several physicians for one and a half years for headaches, vertigo, vomiting, and later visual dis-

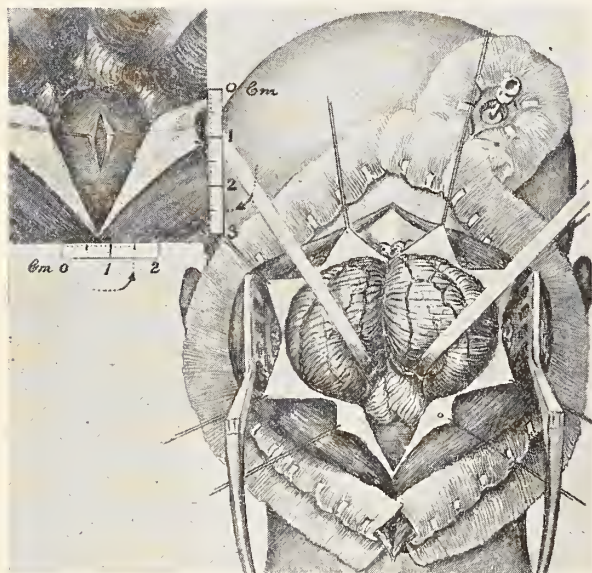


Fig. 5—Case 7

Shows endothelioma lying over the medulla in the sub-arachnoid space. Practically complete removal was possible followed by X-ray therapy later.

turbances, various diagnoses had been made and the various treatments had been of no avail. Our examinations led us to make a diagnosis of a posterior fossa midline lesion. A suboccipital exploration revealed a tumor (Fig. 5) which had completely filled the lower part of the fourth ventricle. It was all successfully removed except its attachments at the sides of the medulla and deep roentgen ray therapy was used post-operatively. The pathological diagnosis was endothelioma. The patient has remained free of symptoms for over two years.

III. Suggestions for furthering early diagnosis and treatment.

1. We must all develop an increased suspicion toward the possible presence of brain tumors, just as we have toward lues and cancer. Brain tumor was formerly seldom reported from hospitals and diagnostic clinics; it is now found at the rate of one case in three to five hundred. This

rate will probably increase as the symptoms of brain tumor become better known.

2. With more widespread knowledge of the early signs and symptoms should go a more optimistic attitude toward the prognosis. The desired extension of knowledge can be secured by: (a) more nearly adequate training and clinical experience in the field of brain surgery during the undergraduate medical course; (b) the inclusion of this in programs of graduate study; and (c) suitable education of the laity.

(a) Undergraduate instruction in the diagnosis and treatment brain tumors is being well given in most of the medical schools, but there are still too many graduates who seem to be not sufficiently interested or think themselves unable to work out an easy case to a diagnosis. Every one of us should have a working knowledge of neurology and should be thoroughly trained in the use of the ophthalmoscope. Cushing and others have been stressing for years the importance of thorough familiarity with the ophthalmoscope, and yet the number of early cases which escape detection proves that it is not used as generally as it should be. It is to my mind impossible to overstress the importance of routine ophthalmoscopic examination in all cases.

(b) Graduate teaching in this field is provided in many state universities and medical centers, and physicians should more generally take advantage of it. Doctors Peet and Camp at the University of Michigan have done a great deal toward providing satisfactory undergraduate and graduate teaching in this subject, for this state and it is to be hoped that more and more of this sort will be available in Detroit.

(c) The common people have been taught a great deal about tuberculosis, goitre, diabetes, and many other medical and surgical conditions. Their instruction regarding brain tumors and similar diseases should not be long delayed.

Adequate medical training, undergraduate and graduate, should make it possible for most of us to detect the early cases. It is our hope that some day we may be able to diagnose cases with sufficient accuracy so that we can differentiate between the hopeless ones and those which can be helped. Reports from our leading neurosurgical clinics show that great progress has been made during the last two decades. Mortality rates have been cut from over 50% to from 15% to 20% for brain tumors. At least half of the brain tumors

are benign in type and many operations result in complete cures. The life expectancy after operations even on the gliomata has been definitely lengthened. As these more encouraging aspects are becoming more widely known, there should be fewer family physicians who advise against surgery, and there is developing a definitely more hopeful attitude toward this whole problem.

3. Examinations of patients should be more complete, and specialization should not prevent us from getting at the first interview a picture of each case as a whole. We do not mean by this always an exhaustive neurological survey, but the inclusion in the examination of those points in history and physical findings which cover the nervous system. If symptoms such as headache, vertigo, vomiting, visual difficulties, deafness or mental changes are present, they should lead to a complete examination by a neurologist. Specialists will find that they inspire deeper confidence when they make it evident that they are surveying all phases of the patient's condition.

4. In cases which are difficult or impossible to diagnose, every means at our disposal should be used before dismissing the patient. All available aids to diagnosis should be employed, such as X-ray studies of the skull, spinal puncture, special visual

and auditory tests, in special cases the neurotological tests such as the Barany and the caloric tests, and ventriculography or ventricular estimation in cases where all other means have failed to give accurate localization. Adequate follow-up of the "tumor suspects" is often difficult, either because the patients move about from place to place and are hard to trace, or because they wish to avoid the expense of repeated examinations. If sufficient effort is made, however, the patient can often be persuaded to return for the necessary examinations, and the reward is sometimes an early diagnosis and splendid results of treatment or operation.

SUMMARY

1. In order to secure the best results in the treatment of brain tumor, it is necessary that diagnosis, accurate localization, and treatment be instituted early.

2. Although marked progress has been made in the diagnosis of brain tumors, we still see too many cases escaping diagnosis or being discovered only in the late stages. It lies within the power of the medical profession to deal with the reasons for delay.

3. To assist in the early recognition and accurate diagnosis of brain tumors, some suggestions are offered for more effective co-operation in dealing with this most difficult problem.

FACTORS IN THE DECAY OF TEETH

An interesting study of the factors concerned in the decay of the teeth has been made by Dr. Louise O. Kappas, Fellow in Pediatrics of The Mayo Foundation, and reported in the *American Journal of Diseases of Children* (36:268, August, 1928). For this study two groups of Rochester school children were selected for comparison, 25 with perfect or nearly perfect teeth, and 25 with marked dental caries. The ages of the children ranged from 5 to 13 years, the average age in the first group being 9.5 years, and in the second group 6.1 years.

Prenatal factors were first inquired into and it was found that the health of the mothers of 16 children in the first group and of 18 of the second group was good, the difference being too small to be of significance. The diet of the mothers was found to be of more significance, green vegetables, fruits and milk predominating in the diet of 14 of the mothers of the first group and of 10 of the second group, whereas meat, potatoes and sweets predominated in the diet of six of the first group and 10 of the second group.

Breast feeding seemed to be an unimportant factor, as 11 children in each group were breast-fed for more than nine months, and four in each group for less than one month. Cereal feedings were started before the age of nine months in 11 of the first group and in 16 of the second group. Vegetables were regularly given before the age of one year to 14 of each group. The members of both groups had received very little orange

juice and cod liver oil.

After the age of one year, however, the diets varied greatly between the two groups, for it was found that green vegetables, fruit, meat and eggs predominated in the diet of 13 of the children with good teeth, and in only three of those with poor teeth, whereas carbohydrates predominated in 14 of those with poor teeth and in only three of those with good teeth. Fourteen of those with poor teeth and only two of those with good teeth ate candy and sweets. More milk was drunk by members of the second group, and contrary to what might be expected, more of the second group than of the first group brushed their teeth regularly. Factors of heredity and of infectious disease incidence seemed of little importance; the important factor in preventing decay was apparently the diet of fruits and vegetables.

A group of 50 children is an exceedingly small one on which to base any very decided conclusions. Besides bearing out the general impression that a carbohydrate diet favors the growth of those mouth flora responsible for decay, however, this study also suggests in a striking manner that the diet is of more importance than the toothbrush. This is of special significance in view of the fact that the toothbrush is now being indicted in various quarters as a menace rather than an aid to oral hygiene, and certainly, as is commonly used and cared for, the toothbrush can hardly be considered as a utensil of cleanliness.—*New England Medical Journal*.

PRESENT STATUS OF GALL-BLADDER DIAGNOSIS AND SURGERY

FRED P. CURRIER, M. D.*

W. R. TORGERSON, M. D.**

GRAND RAPIDS, MICHIGAN

During the past year Dr. Currier and myself sent out questionnaires to one hundred persons who had been operated for gall-bladder disease at some time during the years 1924-25. We surmised that some interesting and perhaps valuable material might be obtained by investigating the results after a period of four years or so had elapsed since operation. We were unquestionably influenced in making this investigation by the marked increase in the general popularity of cholecystectomy throughout the country not as compared to cholecystostomy but as a means of treating the syndrome known as cholecystitis. No doubt the introduction of the dye-test has been a factor in increasing the diagnosis, and as a consequence the number of operations. Judd voices such an opinion in an article of this past year, and adds that he is of the impression that many unnecessary operations have been done.

Our questionnaire was long and comprehensive so we felt well satisfied when we received fifty replies. It is upon the basis of these fifty cases that this paper is written. We know that this is too few a number from which to draw any definite conclusions, and we are submitting this simply as a preliminary report. It is our intention to go on with the investigation and make a more complete and comprehensive report later. One phase upon which we have very little information at this time is in regard to the dye-test, which was just coming into use when these patients were operated. Only three of these fifty had the dye-test.

The questions asked were largely relating to their gastro-intestinal symptoms, both before and after operation. We were also interested in the symptoms that are associated with the neuroses, because of the frequency with which "neurotics" are subject to "stomach trouble." Questions were also asked in regard to the symptoms that might be of cardiac origin, bearing in mind the possibility of confusing abdominal angina with gall-stone colic. In most instances the replies were satisfactory, being complete and frank so far as we could tell.

It is our opinion that this group is a representative one both as regards pre-operative symptoms and the findings at operation. In only ten patients was there little pathology found, and one of these ten had what is known as a "strawberry

gall-bladder," but so mild that we placed it in this questionable group.

FIRST SLIDE

Total number of cases replying to the questionnaires—50.
Female—45 (90%). Male—5 (10%).
Average age—46½ years. Youngest—aged 20 years. Oldest—aged 69 years.

SECOND SLIDE

First question asked: "Is it your impression that your general health has been benefited by the operation?"
Thirty-nine, or 78%, answered YES; 9, or 18%, answered NO; 2, or 4%, gave no answer.

THIRD SLIDE

Post-operative results in a recent investigation by Deaver:

	Calculus Group	Non-calculus Group
Condition entirely relieved	64.1%	65.5%
Condition improved	13.1%	17.5%
Total	77.2%	83%

35% of this group had been operated two years or less.

FOURTH SLIDE

In our cases although 78% were under the impression that their general health had been benefited by the operation, only 36% were completely relieved, as compared to Deaver's 64%.

FIFTH SLIDE

Granting definite pathology in both series of cases, we analyze the difference in the above figures as being due to:

1. More thorough questioning in our series.
2. Greater period of time elapsing since operation.

SIXTH SLIDE

Pathology in this series as follows:

	Cases	Per-cent
Mild chronic cholecystitis, without stones.....	10	20
Severe chronic cholecystitis, without stones.....	7	14
Acute and subacute cholecystitis, with stones.....	5	10
Mild chronic cholecystitis, with stones.....	6	12
Severe chronic cholecystitis, with stones.....	20	40
	96	
2 cases, no pathology recorded.....	4	
	100	

SEVENTH SLIDE

Pre-operative symptoms in order of their frequency were as follows:

Symptoms	No. of Cases	Per cent
1. Pain, average duration, 8½ years.....	45	90
2. Belching of gas.....	44	88
3. Fatigue	42	84
4. Bloating or distention.....	39	78
5. Distress after eating.....	38	76
6. Constipation	37	74
7. Dizziness	36	72
8. Vomiting in 29 cases associated with pain	34	68
9. Palpitation of the heart.....	34	68
10. Nervousness	32	64

EIGHTH SLIDE

Symptoms	No. of Cases	Per cent
11. Jaundice	32	64
12. Backache	26	52
13. Cold and moist extremities.....	25	50
14. Precordial pain or else pain radiating down left arm.....	24	48

* F. P. Currier, M. D. Graduated from University of Michigan in 1916. Instructor in Medical Department of University of Michigan, 1917. Instructor in Neurology Department of University of Michigan, 1921.

** W. R. Torgerson, M. D. Graduated from University of Michigan in 1922. Interne at University of Michigan hospital.

15. Occipital pain.....	23	46
16. Migraine.....	23	46
17. Diarrhea (occasionally).....	20	40
18. Ordinary headaches.....	19	38
19. Band-like sensation around head.....	17	34

NINTH SLIDE

Comparison of pre-operative and post-operative symptoms:

Symptoms	No. of Cases Pre-operative	No. of Cases Post-operative
Pain.....	45	16
Belching of gas.....	44	15
Fatigue.....	42	31
Bloating or distention.....	39	20
Distress after eating.....	38	25
Constipation.....	37	25
Dizziness.....	36	13
Vomiting.....	34	14
Palpitation of the heart.....	34	16
Nervousness.....	32	16

TENTH SLIDE

Symptoms	No. of Cases Pre-operative	No. of Cases Post-operative
Jaundice.....	32	10
Backache.....	26	14
Cold and moist extremities.....	25	11
Precordial pain or left arm pain.....	24	—
Occipital pain.....	23	11
Migraine.....	23	13
Diarrhea.....	20	11
Ordinary headaches.....	19	15
Band-like sensation around head.....	17	14

(12 somewhat relieved)

The number of cases considered in the above group is too small to draw any definite conclusions concerning the relationship of the various symptoms to the various types of pathology in gall-bladder disease, or in disease of the rest of the biliary system. Work is now in progress which may give us some interesting data on pre-operative as compared to late post-operative symptoms in the various types of gall-bladder disease. We hope to make some interesting comparisons between this group of cases and an equal number who have had, pre-operatively, a gall-bladder dye-test made. Such a comparison from the standpoint of post-operative symptomatology would be particularly interesting, especially in the light of recent and continued advancement in the field of liver function tests. We also hope in our further study to formulate more clearly, in our own minds at least, the symptomatology of chronic cholecystitis, particularly in the milder cases, and to differentiate that from the neuroses if possible.

Of what significance then, if any, are these findings? Do they mean that operation was either not indicated or unnecessary? We are inclined to answer in the negative. We must remember, in the first place, that the average duration of the disease in this group prior to operation was eight and one-half years; and, secondly, that many of these patients had been under medical care with no improvement. The 36 per cent who were completely relieved would alone justify the surgery, and more especially when seventy-

eight per cent feel they have received a real benefit.

However, these findings, to us at least, do have a real significance. We do not contend that the symptoms mentioned are all the result of an infected gall-bladder, they are simply the most frequent symptoms encountered in this group. Over half of this series of cases (32 out of 50) admitted functional nervous symptoms of a generalized nature, such as being easily worried, irritated, depressed, etc. Sixteen of these thirty-two were relieved either wholly or partially. This suggests the question, "What bearing do the functional nervous symptoms have as an etiological factor in organic biliary disease?"

Further, there are many residual symptoms that are at least the same as those commonly associated with gall-bladder pathology. A considerable number of these patients are not well notwithstanding their surgery. They have not only symptoms usually associated with a neurosis, but also symptoms suggesting a disturbed physiology of the gastro-intestinal tract and symptoms suggesting a toxemia.

Today the physiology of the gall-bladder is just beginning to be understood. The work of Professor Boyden of Chicago would indicate both that it empties after every meal and that it plays an important part in the digestion of fats. It is not an organ with practically no function, as the statements of a number of prominent surgical writers would lead us to believe. A few articles are beginning to appear in the literature discussing a group of symptoms that may be expected to follow cholecystectomy. These investigators are convinced that a disturbance in liver physiology results, which is more manifest the nearer normal the gall-bladder is at the time it is removed. A definitely diseased gall-bladder has ceased to function, and as a consequence adjustment of physiology has taken place up to a certain point. Its removal is of distinct benefit to the individual because it means the removal of a focus of infection that is in itself harmful.

Also today we are beginning to appreciate a different pathology behind cholecystitis. Many investigators, among whom we might mention Judd and Moynihan, feel that a hepatitis precedes rather than follows cholecystitis.

Consequently, we think that our investigation so far justifies the following conclusions:

First: Because of the persistence of symptoms pointing either toward a neu-

rosis or disturbed biliary function, or both, the patients must be under a longer period of post-operative observation and care than is now the usual custom.

Second: The late post-operative symptomatology supports the present conception of some recent writers who believe that cholecystitis is but one phase of generalized disease of the biliary system or disturbed body metabolism.

DISCUSSION

Discussion on "The Present Status of Gall-Bladder Diagnosis and Surgery," by Doctors F. P. Currier and Wm. R. Torgerson, Grand Rapids:

Dr. F. P. Currier (Grand Rapids): I have nothing much to add, Mr. Chairman. My primary interest in gall-bladder disease was aroused particularly because I saw so many patients in my neurological practice who had had their gall-bladder removed and who still complained of symptoms that would lead one to suspect that there was something wrong at least in the region of the liver, gall-bladder, pancreas, stomach or upper intestinal tract. We asked a great many more questions than we have been able to show by these slides, but we didn't want to bore you with a lot of statistical data. We asked questions regarding the association of pregnancy, the number of pregnancies, etc., with gall-bladder disease.

In this particular group, the women, forty-six in number or forty-seven, averaged three pregnancies, and frequently their first attack of gall-bladder symptoms came on following pregnancy.

We also asked other questions in regard to the pain, as to the location of the pain, etc. Our questionnaire agreed with that of other writers who have investigated the type of pain in gall-bladder disease. We investigated their weight as compared to their height and the ratio in this gall-bladder group was high.

It seems these cases are being neglected in prescribing a proper diet for these patients following their cholecystectomy. I think the surgeon perhaps (if I might be allowed to criticize in any sense of the word) is apt to allow these patients to get out from under his care before they are thoroughly well. Some of them, on account of their heredity or biology will, perhaps, never be well. They are all peculiar types from the chemical standpoint the same as a diabetic.

Some recent writers have been emphasizing the point of doing duodenal drainage after the gall-bladder has been removed and of then reporting excellent results as well as showing that a large percentage of these patients' trouble is not in the gall-bladder itself but is in the liver.

Chairman Jennings: Is there further discussion?

If there is no further discussion, I shall call upon Dr. Torgerson to close.

Dr. Wm. R. Torgerson (Grand Rapids): I don't believe I have any more to say.

ZOOLOGIST FINDS NEW EVIDENCE FOR EVOLUTION

Further evidence that man and monkey are of common descent has been brought forward by Prof. Robert Hegner, well-known zoologist of the Johns Hopkins University. In a discussion of the tiny animal parasites that prey on the inner organs of the higher animals, addressed to Hopkins alumni, Prof. Hegner declared that protozoa of monkeys and men are the only ones that are capable of living in the bodies of either the human or monkey species. It is a well established principle, widely observed by scientists, that each species of animal is afflicted by its own peculiar types of parasite. 'This principle is known as "host-parasite specificity."' "In very few instances," explained Prof. Hegner, "are species of protozoa that live in one species of animal capable of living in another species of animal no matter how closely related the species may be. The situation as regards monkeys and men is

strikingly different. There are a few protozoa that occur in man that do not have representatives among monkeys and a few in monkeys that have not been reported from man but most of the human protozoa have representatives in monkeys indistinguishable from them. This is in such striking contrast to what we know to be true of the protozoan parasites of other animals that we must conclude that a genetic relationship exists between monkeys and men. That is, that the protozoan parasites of monkeys and men have descended from protozoa that lived in the ancestors of monkeys and men and that monkeys and men had the same ancestors. Our studies of these parasites of monkeys and men add a type of evidence to that already acquired that makes even more certain than was heretofore the case that our remote ancestors were arboreal monkeys."—Science Service.

REPORT RESULT OF FLU SURVEY OF ELEVEN CITIES

A survey of the amount of influenza and grippe occurring during a three-month period in eleven cities indicates that only about one-half as many people were attacked in the 1928-1929 epidemic as in the great pandemic of 1918, reports the United States Public Health Service. A house-to-house canvass was made of a sample population of 10,000 people in each locality. Nearly 15 in every hundred of the population canvassed had influenza or grippe during the period of the epidemic. This varied with the locality and comprised about two and one-half to three months from October 15 to February 26.

Of the cities canvassed, Boston had the lowest attack rate, 9.9 per cent and Des Moines, Iowa, the highest, 28.6 per cent. The other were 11.3 per cent for Baltimore, 12.6 per cent for Syracuse, 13.4 per cent for Pittsburgh, 13.5 per cent for Cincinnati, 14.2 per cent for San Francisco, where

the epidemic started, 15 per cent for Kansas City, Mo., 16 per cent for New Orleans, 16.3 per cent for Farmington, Mo., and 17.9 per cent for Seattle.

The incidence of influenza is so low in the canvas compared with that found in groups kept under close and continuous observations as to indicate that the reports probably include only a fraction of the cases which actually occurred. Difference of opinion as to what constituted influenza or grippe and what a cold, together with the necessity of relying entirely on the memory of the housewife, who gave the information, may account for the low incidence recorded.

An attack rate of 0.47 per cent was reported for pneumonia and of 14 per cent for colds. A more detailed report will be issued later.—Science Service.

TREATMENT OF TRAUMATIC AND ACQUIRED FACIAL DEFORMITIES*

CLAIRE L. STRAITH, M. D., D. D. S.**

DETROIT, MICHIGAN

A daily review of the press articles cannot fail to impress one with the fact that auto accidents are decidedly on the increase. The Detroit Receiving Hospital cares for approximately 30,000 accident cases a year and it is estimated that fully 50 per cent of these are due to auto accidents. Of those injured in auto accidents, a large percentage, about 75 per cent, have facial wounds varying in extent from minor lacerations to fractures of facial bones. (Fig. 1). For the first six months of this year, auto accidents alone were responsible for 103 fractures of the lower jaw, 36 of the upper jaw and 8 nasal bone fractures, as shown by the reports of this one hospital (Dr. T. K. Gruber, Superintendent). Accidents in industrial life which involve the face, are much less common and represent about 2 per cent of the injured cases cared for by an industrial hospital. (Michigan Mutual Hospital, Dr. H. Begle, Superintendent).

In view of the above statistics showing an ever increasing number of facial wounds, it seems essential that more careful emergency treatment should be given to reduce the number of resulting deformities. It is almost inexcusable, where time

the tissues must be handled with extreme care. Scar or bruised tissue should be cleanly excised, the wound edges undercut and carefully brought into exact approximation with slight eversion. In handling skin a hook applied from beneath does no damage, while a skin forcep usually bruises. Sutures should be preferably of horse hair for facial work, used on fine



Figure 1

Windshield cuts are frequent in auto accidents.

and proper facilities are available to suture facial wounds with large silk worm, catgut, or linen stitches, or employ an occasional skin clip to close a facial wound which will leave a hideous deformity if not treated carefully.

Whenever possible, the immediate treatment of such wounds should be practically the same as the delayed treatment of a facial scar. To produce a minimum scar



Figure 2

Mattress sutures to produce eversion of wound edges. Interrupted double-twisted horse hair for exact approximation.

sharp needles. Horse hair mattress sutures which evert the skin edge slightly produce excellent results, but should be accompanied by double twisted horse hair sutures through the very edge of the skin, every $\frac{1}{8}$ inch if necessary to produce the closest approximation (Smith). (Fig. 2). In secondary excisions if parallel with Langer's lines, I find a double subcuticular stitch gives excellent service (Hunt). An ice bag if applied at once, helps to prevent bleeding and retards infection. The wound

* Read before the Section on Ophthalmology and Otolaryngology, 108th Annual Michigan State Medical Society, September 27th, 1928.

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Figure 3
Crushing injury to nose.



B
Figure 4
A—Vulcanite airway with modeling compound and skin graft.
B—Same introduced into nose to relieve atresia of nostrils due to scar contraction.

should be kept meticulously clean and stitches removed usually from two to four days later, if the best results are to be obtained.

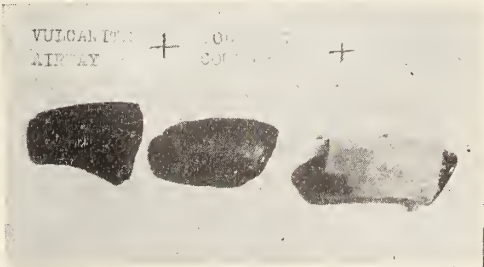
Injuries involving bone destruction or loss of tissue are those which produce the greatest deformities. Bone injuries are usually followed by draining sinuses, depressed scars, etc., and usually require reconstructive surgery.

In the milder injuries, especially of the nose, the early treatment is especially important. Carter has pointed out that many of the septum deflections and nasal deformities are undoubtedly due to childhood accidents to which little attention has been paid. Such injuries should have more careful attention. Depressed nasal bones elevated and held in position with proper packing or splints so that fewer deformities would result.

Deviations of the nose if treated early can usually be corrected by simple thumb pressure followed by a lead splint properly

held in place, but if allowed to become fixed, require an operation for their correction.

Crushing nasal injuries must be treated expectantly and usually months should be allowed to elapse before reconstructive measures are attempted. (Fig. 3). The draining sinuses should be allowed to close



A
Figure 4



Figure 5
A—Slight nasal depression.



Figure 5

B—Same corrected by introduction of ear cartilage.

and infection cleared up. Cicatricial atresia of the nostrils should be corrected by a Tiersch skin graft, applied over a compound impression on a vulcanite airway. (Fig. 4). Scars should be removed from the nose if possible, and when sufficient time has elapsed, the bridge may be reconstructed.



Figure 6

Metal model of crushed nose for use in shaping cartilage, before inserting same into nose.

For small depressions, ear cartilage is quite satisfactory (Fig. 5), but for large depressions a rib cartilage transplant is far superior.

A very helpful preliminary measure as advocated by Cohen, is the making of a metal model of the nose. (Fig. 6). This can be boiled with the instruments and the cartilage prepared and shaped to fill the de-



A



B

Figure 8

A—Saddle nose with depressed tip.
B—Same corrected by use of hinged transplant to elevate tip and straighten bridge.

fect before being inserted into the nose, through a mid-columellar incision. (Fig. 7). Where there is also a depressed tip, a hinged rib transplant should be used, giving support to the tip, as well as to the bridge. (Fig. 8). Paraffin and similar substances should never be used.

At the operation a double amount of rib cartilage is removed and the excess stored

under the skin for future use in case of accident.

Complete severance of part or all of the nose is a serious accident. The same principles apply as in the case of loss involving any mucous lined cavity, rather than distorting the features by trying to pull an unlined flap over the defect, it is always better to bring out mucous membrane and



A



B



C



D

Figure 7

A—Crushed nose after auto accident.
B—Profile after introduction of cartilage.

C—Front view showing depressed bridge.
D—Front view after cartilage transplant.

suture to the skin around the opening. This facilitates the use of inturned flaps, when a future repair is attempted. In the repair of the tip, alla and whole nose here



Figure 9
Perforation through tip of nose due to windshield cut.

illustrated (Figs. 9, 10, 11), the surrounding tissue was rolled in as inturned flaps and a free graft, in the first two cases, and

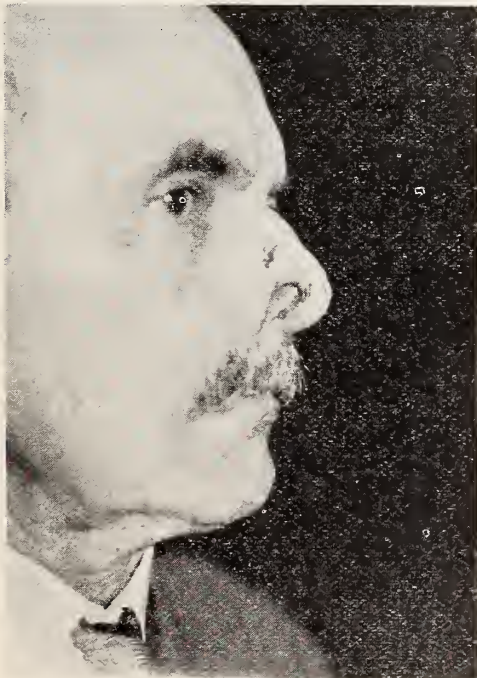


Figure 12
Wiring teeth on each side of fracture is usually useless. A fulcrum is produced at the teeth and each movement widens the fracture below.

a pedicled graft in the third case, applied to the surface as a covering. Time will not permit a complete detail regarding the treatment of these various defects.

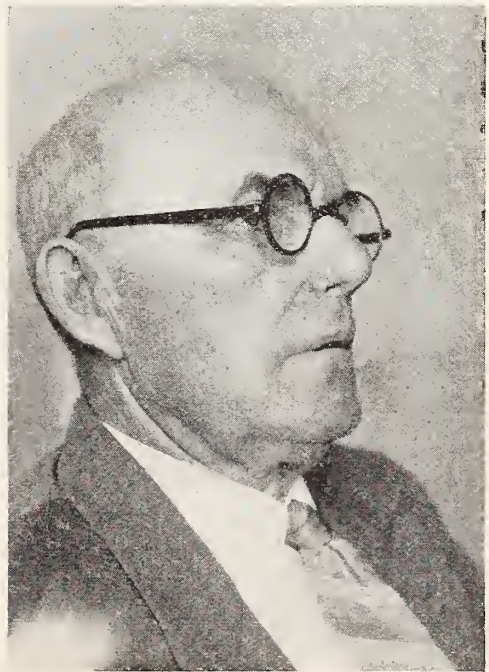
Fractures of the jaw are becoming much more frequent, although not of particular interest to this group, nevertheless, their treatment is of considerable importance. At the outset I wish to emphasize that such treatment should only be undertaken by a surgeon with some dental knowledge or in co-operation with some dentist.

In this brief time, but a few points can be taken up. Whatever method of treat-



A

A—Destruction of one alla.



B

B—Repair by rolled flap for lining, Wolfe graft for covering.

Figure 10

ment is instituted the object to be gained is complete immobilization, in proper position. Surgeons sometimes attempt to obtain immobilization by wiring teeth on



A



B

Figure 11

A—Severed nose due to auto accident.
B—Restoration with forehead flap. Wolfe graft to forehead.

Figure 14

Figure 14 (at the right)
A—Method of Diagnosis in depressed fracture of the malar bone.
B—Raising of bone by heavy tenaculum forceps.
After A. E. Rocky, M. D.



Figure 13
Loop method of inter-maxillary wiring immobilizes fragments and usually is most satisfactory.



A



B

each side of the fracture in the same jaw. (Fig. 12). This very seldom suffices—and usually does more harm than good. In general no better splint can be found than the occlusal plane of the upper teeth and therefore most satisfactory results are usually obtained if the fractures are reduced and adequate inter-maxillary wiring introduced

to immobilize the teeth. One or two wires will not suffice; at least two inter-maxillary wires on each side should be used.

For this purpose the "loop method" of wiring has many advantages. The wire is passed between, then back and around two teeth, one end passing through the loop and twisted to its fellow. (Fig. 13). Thus



A



B



C



D

Figure 15

Illustrating inturned flaps for lining and deltoid tube pedicle to cover large facial defects.

A—Loss of upper lip.

B—Lining and covering flaps outlined and re-sutured.

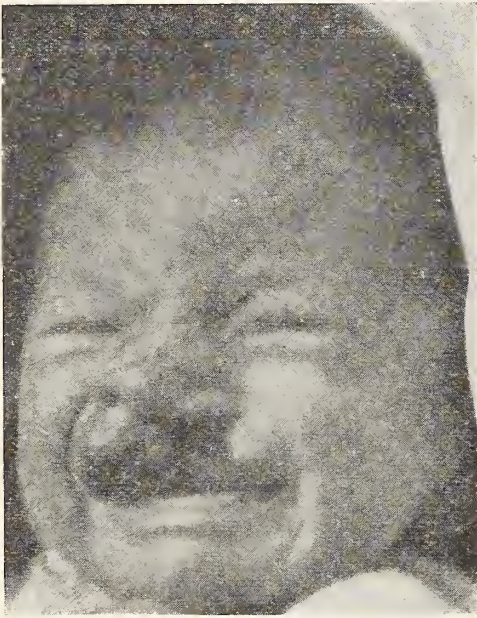
C—Lining inturned and deltoid flap covering transferred.

D—Result after return of pedicle, to arm.

the anchorage is about two teeth in each position, the loops can easily be connected by intermaxillary wires and in case of emergency the connecting wire can be removed and the mouth opened without removing wires around the teeth. Complicated fractures, edentulous jaws, etc., require special splints for each individual case and cannot be taken up here. Head bandages, plaster casts, etc., are of little

use in maintaining the correct position of the fragment.

Fractures of the malar bone are probably of next greatest importance. The deformity produced by a depressed malar bone fracture is usually quite conspicuous and can be gauged by the test by Rockey as illustrated. (Fig. 14). The applicators are pressed tight to the malar bone and past the end of the eye brow—the amount



A

A—Cleft lips should be operated early in infancy.



B

B—Photo at two years of age when palate was closed, by operation.

Figure 16



A

A—Double cleft palate and cleft lip before operation.



B

age and wired in place. Photo of patient six days after lip plastic illustrating method of relieving tension, by adhesive straps.

Figure 17

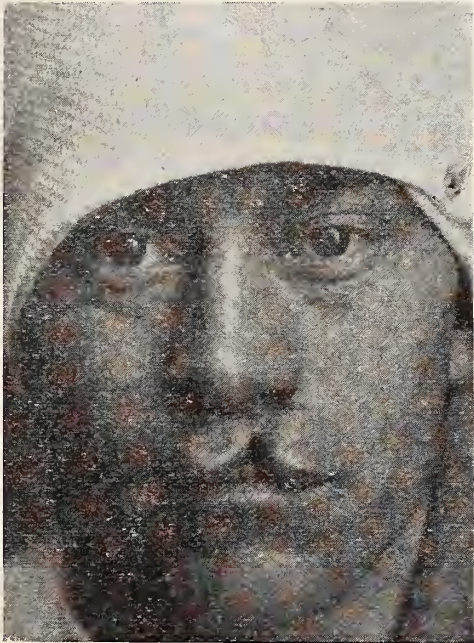
B—Pre-maxilla was reduced at seven days of

of divergence indicates the amount of depression. Such depressed fractures can usually be elevated by the use of a large towel clip inserted through the skin and floor of orbit and beneath the angle of the malar (Rockey).

Of the deformities acquired by disease involving the face, the majority are undoubtedly due to tuberculosis, lues or can-

cer. In any case the causative factor must be arrested before treatment can be begun.

Probably the most common deformity is the characteristic nose produced by syphilis. The repair depends upon the extent of destruction. A very careful diagnosis of the tissues lost, must be made. If the lining has been partially destroyed, pulling the nose up into the characteristic "pug" this



A

A—Man 26 years of age with unoperated cleft lip.



B

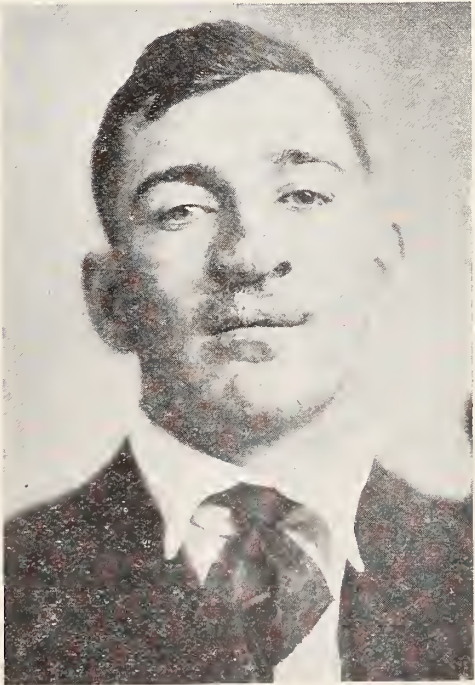
B—Patient two weeks after repair.

Figure 18



A

A—Notched lip resulting from scar contraction.



B

B—Same after secondary repair.

Figure 19

must be freed of its adhesions and the raw undersurface skin grafted, after which a support of cartilage may be introduced by the method described. Losses of skin covering must be supplied by flap grafts from other sources and usually the forehead skin is best adapted due to its similar color, texture, etc. A simple cartilage graft in a syphilitic "pug nose" is not usually satisfactory. The pug will remain due to the contraction of the lining by scar tissue.

The repair of extensive lesions of the face may require skin from distant parts and this can often be secured from the deltoid region by a "Gillies" pedicle. The skin of the arm is not of the same texture nor color but serves as well as any skin except forehead skin. (Fig 15).

Congenital facial deformities such as hare lips, etc., are of great importance, because of their frequency and the effect on the mental development of the child. An inferiority complex is often produced which retards the child's progress through life, unless corrected early. Lip plastics can readily be done within the first few days of life for the results are excellent and the grief stricken parents are encouraged immensely by the prospect of an immediate repair. (Figs. 16, 17). The soft palate clefts should be operated when the child is about two years of age, at which time the tissues are strong enough to withstand the operative trauma and the results

are usually much more satisfactory. Cleft palates may, however, be closed in later life with excellent results and it is also possible to greatly improve many conspicuous hare lip scars by secondary operations. (Figs. 18, 19, 20).

Nasal deformities such as twisted, humped nose, etc., have undoubtedly caused much mental anguish to the possessors. Since the correction of such deformities has been so frequently discussed it will suffice to say that most of these minor conditions can be corrected by a simple operation done from within the nose, leaving no external scar. (Fig. 21).

It is hoped that the brief consideration of a few of the various facial deformities may emphasize a few important points, namely:—

1. The great importance of careful, rather than hasty emergency treatment of facial wounds.
2. The need of careful examination of nasal injuries in childhood as well as adult life, and their immediate correction.
3. Cartilage transplants should always be used rather than paraffin for filling depressions.
4. A large wound into a mucous lined cavity should have mucous membrane sutured to skin around the edges, to facilitate future repair.
5. Mandibular fractures are usually best treated by inter-maxillary wiring.
6. The typical syphilitic "pug nose"



A

A—Failure of union after double hare lip operation.



B

Figure 20

B—Same two weeks after secondary repair.



Figure 21

Illustrating various degrees of hump noses before and after correction.

must have a lining restored before cartilage graft, to produce best results.

7. Hare lips should be corrected within the first few days of life. Soft palate operations should be delayed until about two years of age. Secondary correction should be done at any age, rather than carry an unsightly scar through life.

DISCUSSION

Dr. A. E. Owen (Lansing): I am sure this is a very comprehensive treatise of this line of work. I have found in doing facial repair work that troubles sometimes arise by too great pressure on the parts replaced. I think that was my first lesson in doing that work, getting too firm a pressure.

There are other phases of the work which Dr. Straith brought out; the study of the case before making any transplants I think is pretty valuable because no matter how artistic anyone is, if we had a chance to study it beforehand, our results would be much better.

He is very fortunate in having had his preliminary work along dental lines so that he is fully prepared to do all the dental work with the plastic work. I find that very, very difficult work to handle and always try to handle it in conjunction with a dentist.

Dr. M. Kessler (Bay City): Fractured nasal bones happen quite often in little children. I have occasion to see quite a few of them. Often chil-

dren get hit when playing baseball, perhaps with the bat. I have had occasion to see two or three of them caused by someone batting with the right hand, and there was a depression of both nasal bones and the skin torn right down to the bone.

It is an easy matter to take care of these fractures very soon after the accident, as Dr. Straith mentioned, elevating the bone by proper inter-nasal packing, but I add the Joseph nasal clamp to it, which forms the shape of the nose back in the same way as it was before the accident happened. I take eight or ten days for it and the shape of the nose is restored and, taking out the packing after this length of time, the bones stay in their proper place.

I had occasion to take care of one cleft soft palate in a patient about 32 years old. There were a few attempts made before I had the patient which, but for one reason or another, they were not very successful, but even in a person 32 years of age, if we have a chance to do it in the proper conditions, it is possible to close the soft palate right from the junction between the hard and soft palate down to the tip of the uvula, but in this case we could not restore the voice. She had difficulty in swallowing and she had liquids come through her nose quite often.

Dr. R. E. Mercer (Detroit): The doctor spoke of using a certain method, but I think the method of Brown, of Milwaukee, is still better than that he is using, and that is using No. 2 linen thread with a cambric needle. He spoke of never using paraffin. I must confess in years past I have

used paraffin a few times in depressed deformities with a good base, with very good results and the results have persisted to this day, and the paraffin has caused no trouble. I don't mean that I would advocate its use now, especially where you need something to hold up the tissue, but where there is a good base, it used to work well in the past.

I should like to ask if Dr. Straith has had any experience with the use of Pollock's method, using ivory.

Dr. Charles H. Baker (Bay City): It occurred to me when the doctor was speaking of the wiring together of those jaws, what is he going to do in a case where there are no teeth and also what my solution of that problem might be. I can see the absolute necessity of doing away with any fulcrum by which the muscles that move the lower jaw will pull the edges of the fracture apart and I am wondering if the doctor would solve that problem as I might, by subcutaneous wiring of the lower end of the fracture.

The matter of transplants of skin is one which is a continuing problem with every case that comes to you. The syphilitic cases frequently have so much destruction of skin in the neighborhood of the part you want to replace, that you can't get satisfactory forehead flaps or flaps in the cheeks, and in that case you must resort to flaps from the shoulder, or arm, or whatnot.

A good many years ago before we knew very much about the methods of plastic surgery we now have, a case occurred in Bay City in the practice of Dr. Erwin, who was certainly an ingenious surgeon of his time and one of the old school men. It was a case of syphilitic loss of the end of the nose and depression, and he proposed to build this woman a nose from the tissue of the forehead.

In order to get sufficient tissue, he had to go quite a way up into the scalp to bring down enough to make a nose and after the transplant was in place and well adherent and growing for a long time, when the woman touched the end of her nose, she felt it up in her forehead, and the hair from that portion continued to grow and she was having continually to remove a moustache from the end of her nose.

Dr. Carl McClellan (Detroit): I should like to ask if Dr. Straith has anything new to offer for complete congenital atresia of the nasal pharynx. I have in mind a case of a Negro girl, syphilitic, who has been operated on four times. She has complete congenital atresia of the nasal pharynx with a corresponding narrowing of the nasal arch, and last time an opening was made through the hard palate, and a large opening was made, into which you could insert your thumb, and we watched that gradually close until it completely closed.

She had the beginning of deafness in one ear and absolutely no breathing through the nose and she had a mastoid on one side as the result of her closure, so it is very necessary that we try to get something through the throat, but with a syphilitic background, the scar tissue seems to come back in spite of us.

Dr. C. L. Straith (closing discussion): I guess my bet was a good one that a diversified paper would produce discussion. I appreciate the kindly way you have taken these few remarks. I am sure one can hardly take up all the things one might imagine would arise in your minds in a paper, and it is gratifying to have them brought out in a discussion.

Dr. Kessler's remarks about fractured noses I think are perfectly right, that they should be

treated early in childhood and depressed fragments should be elevated. The use of Joseph's clamp is very fine. I have two of them of different types, but I find that a lead splint modeled after Cohen's splint seems to work quite well.

Dr. Mercer, I noted suggested linen suture material. I am familiar with Dr. Brown's work. He does it very beautifully, using very fine linen, between his horse hair sutures and it is a very fine method, although it seems to me that in my hands horse hair works better. The linen suture seems to absorb a little more secretion than horse hair and I get a little more destruction around the individual stitch than I do with horse hair.

About paraffin, I think the doctor is perfectly right. It was used years ago but I think few people are still using it. Regarding ivory, I had a very interesting conversation with Dr. New at Rochester recently. Some time ago he published an article regarding the use of celluloid which is somewhat similar to ivory and he has regretted the publication of that article possibly more than any other, so he tells me, although he experimented on dogs and animals, inserting the material for sometimes three or four years before he actually tried it much on patients, but he told me this, that his patients began coming back after they had a transplant, which in his case was celluloid. The patients began coming back after about two years and he says that now he doesn't feel that he has any of those transplants in existence. They have practically all come back to roost and he has had to remove them.

So I think most people feel that way about foreign bodies in any form, ivory or celluloid. Joseph, in Berlin, I believe still uses the ivory, but most people use cartilage.

Dr. Baker suggested the treatment of the jaw fractures. As I mentioned, the intradental wiring is the most applicable to nearly all types of fractures, but in some cases there are individual problems that arise. Just the other day we had one of these edentulous cases. He had just had his upper teeth extracted and while in an argument had his jaw fractured in two places, so we couldn't use a Gunning splint, which we often use in an edentulous mouth. A Gunning splint is like two plates fastened together without teeth, (illustrating on blackboard), leaving an opening in the anterior part of the mouth, through which the patient may take nourishment.

He had six lower anterior teeth so we took an impression of the entire lower jaw. We made a vulcanite splint, going over the whole lower jaw, with a part which depressed the posterior fragment into proper place, so that we had a very nice alignment. We then cemented this on the lower anterior teeth. If there are no teeth in the lower jaw, I often use Dr. Ivy's method of circum-mandibular wiring. An impression is taken of the edentulous jaw, a plate is made without teeth and silver wires passed around the mandible and over the splint in about four places. These wires are brought out through small incisions below the mandible and the splint forced down into proper position by twisting these wires. The wires are left on about six weeks.

The doctor also mentioned the restoration of a nose. It is seldom that there is so little forehead skin that a nose can not be reconstructed from the forehead skin. The Indian method has been in use for two or three thousand years and it is by far the best method because of the fact that the forehead skin is so much like the other skin and rather than remove a large piece and distort the eyebrow, we simply Wolfe graft it with skin

from the abdomen, as this woman showed, and replace that skin with abdominal or other skin.

Dr. McClellan mentioned the fact of atresia palatae which is a very interesting topic. I find many people in years gone by have had the same difficulty. The old method was to put a silver wire in and twist it until it gradually cut off the tissue.

My old chief, Dr. Brophy, used this method (illustrating on the board). He would insert a square piece of guttapercha with four holes in the corners and heat it slightly and bend it to take the shape of the curve and run two sutures through the corners of the piece through the nose, one through each nostril, tying them over a piece of rubber tube.

I have had three cases in the last year of atresia palati; one a woman about 30 years old who had a tonsillectomy done in England; she had complete atresia of the palate. The pos-

terior pillars had grown together and down so far that she had simply a little slit at the base of her tongue about three-quarters of an inch long and one-eighth inch wide.

In her case I made an incision where the end of the palate should be and freed it up underneath. I took an impression with an improvised tongue depressor over which was a little modeling compound. Into this impression I then put two safety pins with loops out. Sutures were tied to the loops and brought out through the nostrils. The impression was covered with a Tiersch graft and pulled into place by the sutures. A very nice result was obtained. Another boy two months ago that had a resulting atresia after tonsillectomy I did the same thing except in this boy I rather hesitated to use the skin graft, so I left in a lead plate with modeling compound over it, shaped to the naso-pharynx and tied it in as before. The third case, probably a luetic, I did not operate on.

SHALL THE PHYSICIAN TELL THE TRUTH?

The problem involves particularly those cases in which owing to peculiar circumstances the physician cannot avoid speaking. Fortunately for our peace of mind avoidance is perhaps generally practicable, but sometimes we cannot escape. For the purposes of this discussion, the field is circumscribed within narrow limits, and two answers to the question stand out.

The first is "Yes, certainly." It is a refreshing reply, so clear cut, so trenchant; no nonsense about that, no foggy ethics there. But the practice of this injunction leads the physician into difficulties so great that he may think the only way out, is "to lie about it."

The second reply is "That depends." The explication of the dependence involves us in difficulties only just less than the first reply.

"What is Truth? said jesting Pilate and would not stay for an answer." We avoid the company of Pilate, and prefer to be classed with those of whom it was said "They had their own notion of truthfulness based on the exceeding difficulty of finding truth and the still greater difficulty of impressing it when found."

The first difficulty is in finding the truth. "You have cancer and are going to die." Certainly this is true if we may believe the pathologist, and the elementary textbooks on logic, which inform us with such convincing insistence apropos of Socrates, that "man is mortal."

Suppose the patient says, "Is it cancer?" Is it not true to say, for example, "Well of course it is some kind of a tumor, but cancer nowadays means quite a number of different things, and perhaps some people might call this cancer. But you know

we do not think about cancer today quite the way people used to think about it. We are not as hopeless about it as people used to be, and every year we hear of more and more people who are cured of cancer. So that even if this should later prove to be cancer, maybe it is not as bad as some people think. I have seen people who certainly had cancer, and are perfectly well today. I call them cured."

If perchance, it falls to the lot of the physician, as it may come to any of us, to answer the question of the patient, "Am I going to die?" when the patient is, beyond peradventure, sick unto death, the physician should as one brave man to another, perhaps not so brave, say "Yes, I think so." Yet not in those curt casual words, but with such gentleness and wisdom as is his, he should sit down and as a friend converse, according to his insight into the needs of the dying. But this is the duty of the priest! It is a curious fact that the true physician has in him something of the priest also.

The whole truth as we approach it in the practice of medicine, is not comprehended within a few fixed formulas which apply to all cases. Life leads us to make a vast penumbra of formulations, perhaps not very clear, by which we vaguely but no less certainly approximate the truth. It ill becomes the physician to forget this field of experience.

Yes, by all means, the physician should tell the truth. But first let him be sure he has found it; and let him not think, the nouveau sage, that by his smug formulas, he adequately represents it. —New England Medical Journal.

RADIOLOGY AS A MEDICAL SPECIALTY

As the result of an investigation of radiology as a medical specialty W. Edward Chamberlain, San Francisco, asserts that the problem of lay laboratories will not disappear until the profession recognizes that radiology is truly a branch of medicine, and that it is fundamentally wrong to send patients to lay laboratories. There will not be a satisfactory influx of young medical graduates into radiology, nor a satisfactory development of radiology in the hospitals, until the relations between hospitals and radiologists have been improved. The hospital radiologist must be offered an opportunity for self-development comparable with that of his brothers in medicine and

surgery. Under the present scheme of things there are many instances of the exploitation of radiologists by hospitals. The amassing of profits by the hospital from the radiologist's services constitutes exploitation whenever such profits exceed what can be justified by the material outlay and investment in apparatus and space. There is need for a revision in the fee schedules for radiologic services, because most of those now in operation place the radiologist in the position of selling celluloid by the square inch instead of rendering a type of medical consultation service.—Journal A. M. A.

TUBERCULOSIS IN INFANCY AND CHILDHOOD*

HARRY C. METZGER, M. D.

In the true sense of the word, tuberculosis is a disease acquired during childhood and often recovered from at this time. There is no natural immunity to the disease—all children are susceptible to the tubercle bacillus. We can get an idea of the prevalence of the disease from various hospital statistics. Seven and one-tenth per cent of all children admitted to Cook County hospital were suffering from tuberculosis. As an infection, it is more prevalent than this. A series of 848 cases reported by Hamburger in Vienna, show tuberculous lesions in 39.5 per cent. Hand of the children's hospital of Philadelphia found 34.6 per cent with similar lesions. Cornet reports a series of 1,542 cases with 17.5 per cent showing tubercular changes.

In New York, it was noted that about 10 per cent of all children became infected by the end of the first year of life. By the time a child reaches puberty, various statistics show that from 40 to 90 per cent have become infected. In Vienna, Hamburger and Monti found 94 per cent were infected by the age of 12. Veeder and Johnson found 44 per cent were infected by the 10th year. Myers in Minneapolis found 41 per cent infected on attaining puberty.

Social and economic conditions influenced the prevalence of the disease, as was shown in the marked increase in European countries following the last war. As far as inheritance, we can say that a predisposition to the disease seems inheritable. The Indians, Irish and Negroes in this county have a predisposition to the disease. Certain infectious diseases as measles, whooping cough and influenza, predispose the individual to the infection. In regard to sex, there seems to be little difference except that there is a tendency for the disease to be a little more common in the female above the sixth year of life.

While most observers are of the opinion that tuberculosis is an acquired disease, congenital tuberculosis cannot be entirely omitted for consideration. There are 113 authentic cases of congenital tuberculosis on record. We can readily conceive of the possibility of the tubercle bacillus passing through the placental filter producing an active lesion in the fetus without involving the placenta itself. Because of its infrequency, we will consider the acquired type entirely.

Tuberculosis as a disease, dates back to the time of Hypocrates in the 17th century. Sylvius recognized nodular deposits

associated with the disease. At this time it was called consumption. In 1819, Lennec showed the relation of enlarged glands to tuberculosis. In 1865, Villemin showed the communicability and infectiousness of the disease. He injected animals with diseased tissue and sputum of tubercular patients and produced the disease in animals. In 1882, Koch isolated the organism, injected animals and produced the disease, later recovering the organism again from experimental animals. This established tuberculosis as an infectious disease, not as a constitutional disease. Later Theobald Smith separated the human organism from the Bovine type, the latter bacillus being a shorter, thicker, straighter rod, taking a uniform stain.

The bovine type of infection is of less importance than the human type. The bovine organism produces a milder infection than the human tubercle bacillus, having a predilection for the cervical glands, intestines and bones. Its frequency varies with different observers. Calmette reports 4 per cent cases; Park, 25 per cent, and Rosenou, 49 per cent in children under 5 years of age. Clinically, it is of little importance to distinguish the two types.

There are numerous classifications of tuberculosis, but the most simple and complete one is probably that based on the pathologic sequence of the disease. According to Hamburger and others, there are four stages of tuberculosis. The first stage is that of the primary focus. This is most frequently found in the lung, in over 90 per cent of cases, the remaining cases showing it in the skin, mucous membranes, intestines and genitalis. The second stage is that in which we get a hematogenous or lymphogenous metastases from the primary lesion. In this stage we get our tubercular adenitis and miliary involvement in the various organs of the body, bone, intestines, etc. In the third stage, we get a localized extension of the primary focus. This is called a bronchogenous or intercanicular metastases from

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the primary focus. In this stage, the body possesses a definite immunity to the tuberculous infection and presents only a localized extension of the process, without a lymphogenous or hematogenous metastases. In the fourth stage, the body has lost its immunity to the disease, and so we get a hematogenous or lymphogenous metastases from the primary focus to various organs in the body. In children, we most frequently find the first two stages of the disease and less frequently, the third stage.

Whether the organism gains entrance to the body through the intestinal route or the pulmonary, is still a controversy of opinion. It is true that many more bacilli are swallowed than inhaled, but the lung has a much higher predisposition to infection than the intestinal tract. The lung is a perfect culture media for the growth of any organism because of its abundant blood supply. The lymphatic system of the lung on the other hand, is inadequate and cannot cope with the infection. Von Pirquet states that 95 per cent of tubercular infections develop as a result of inhaling the bacillus into the lung. V. Behring, Calmette and others believe the tubercle bacillus gains entrance by way of the intestinal tract. Most recent workers are inclined to favor the inhalation route.

Let us now consider the various stages of tuberculosis. In the first stage, the bacillus is aspirated into the lung similar to a foreign body. This explains the frequency of the primary focus in the lower right lung. Following aspiration, the tubercle bacillus sets up at once a primary alveolitis and a specific tissue reaction. There is a pouring out of lymphocytes and a formation of epithelioid cells and giant cells. Almost at once, the process metastasizes to the regional lymphatic glands. Theoretically, the foreign body consisting of the tubercle bacillus and serofibrinous exudate with lymphocytes could be coughed up, which would explain why we occasionally find enlarged regional lymph glands without any evidence of a primary focus. The primary focus undergoes the various changes of all tubercular lesions, caseation necroses and finally calcification and scar tissue formation. There is usually a marked peripheral inflammation around the primary focus, especially in infants, caused by the formation of antibodies to the tubercle bacillus. The regional lymph glands in the hilus are enlarged then from two causes; first, from the setting up of a primary focus, and secondly, due to the peripheral inflammation

in the lung. The primary focus with the enlarged regional glands is called the primary complex of Reincke. After several years when the primary focus undergoes calcification, it forms the Ghon tubercle. The primary focus is characterized by lying directly beneath the pleura, explaining the frequently complicating pleuritis in the first stage of the disease. Hamburger calls this the subprimary pleuritis.

The body is changed following the setting up of a primary complex, so that this same process cannot take place again in spite of re-exposure to the tubercle bacillus. This stage of tuberculosis corresponds to the incubation period of infectious diseases. The duration is from six to 12 weeks, and during this time, the Von Pirquet reaction remains negative. Following the incubation period, a state of allergy is set up in which the specific antibodies are distributed throughout the body causing a specific reaction to tuberculin. For the time being, the child is in a state of hyper-allergy, which means that the body is more sensitive to tuberculin tests, because of the over-compensation of the body with the over-production of antibodies. This state usually corresponds to the second stage of the disease when there may be a metastases by way of the lymphatics or blood stream if there is a sudden loss of body resistance. This hyper-allergic state gradually disappears as the local process recedes, and the body remains in the allergic state the rest of the time, permitting only local extension of the process. Should, for any reason, the child lose its natural immunity due to intercurrent disease or malnutrition, a state of anergy would exist and there would be a generalized spread of the infection, which would correspond to the fourth stage of the disease. Thus we see that after the primary focus is once set up, we are dealing with a changed human organism. Its reaction to repeated exposure to the tubercle bacillus, no longer will be the same, but will depend on the natural resistance of the body. This is quite important in considering prophylaxis and therapy.

Our diagnosis of tuberculosis depends upon four main features; i. e., the history, the physical examination, the X-ray and the tuberculin tests. We have said that tuberculosis is an acquired disease, hence the history of contact with a tuberculous surrounding is important. The symptoms are not at all characteristic in infancy, and point merely to a chronic infection. The most common symptoms complained of are

underweight, lack of appetite, irritability, irregular temperature. In infants with the tendency of the regional glands to enlarge considerably in size, we usually have a typical expiratory dyspnae with a tendency to spasmodic cough. Sweating and hemoptysis are rarely found in children. Failure to gain with an indefinite fever, are the two important symptoms in infancy. With the lymphogenous or hematogenous spread of the disease, we may get symptoms referable to the gastro-intestinal tract or central nervous system.

The physical findings are variable. We may find interscapular dullness to percussion. On auscultation, moist rales may be present. D'Espine's sign or the transmission of bronchial breath tones and whispered voice sounds below the third dorsal vertebrae posteriorly, is not definite, and may be absent.

The X-ray findings are the most important in making the diagnosis of tuberculosis. The primary focus may not show up for several years or until complete calcification has taken place. However, the enlargement of the hilus area and regional lymphatics show up early. The primary complex is found most frequently in the lower two-thirds of the right lung, less so in the right upper lobe, left lower, and left upper lobe. Apical tuberculosis is not a disease of childhood but rather a tertiary lesion found in adults. The hilus glands are enlarged in the following order: The right inferior broncho-pulmonary, right superior broncho-pulmonary glands, and the tracheo-bronchial glands. Other shadows seen on X-ray are the shadow of Eisler and Schluko which is usually due to a combination of an inter-lobar pleurisy with a peripheral inflammation around the enlarged regional lymph glands. This later leaves a fine line of an interlobar pleurisy described by Hotz. The miliary tuberculosis common in infancy gives a typical X-ray picture, showing small white patches scattered throughout both lung fields of equal or unequal size, depending on whether it is a spread through the blood stream or by way of the bronchi.

The sputum examination is not important in small children or infants. The examination of the stool and urine for the tubercle bacillus is important in infancy and early childhood.

The diagnostic skin tests are quite essential. There are four tests; i. e., the percutaneous test (Moro), the cutaneous test (Von Pirquet), the intracutaneous test (Mantoux) and the subcutaneous. The

Pirquet and Mantoux reactions are the ones usually used. A positive Pirquet test during the first two years of life means an active tuberculosis process in the body.

The prognosis of the disease depends upon the age of the child and the localization of the lesion. Statistics show the mortality to run as high as 80 per cent during the first year of life. From 10 to 30 per cent of the mortality of infants during the first two years of life is due to tuberculosis. During the first two years of life, tuberculosis affects the lymph glands, lung and pleuro mainly. In the pre-school age, generalized tuberculosis with a terminal tuberculosis meningitis is common. In the school age, cervical adenitis tuberculous peritonitis becomes more prevalent. The prognosis is good in glandular tuberculosis, bones and joints, and skin tuberculosis, and less favorable in pleural and peritoneal involvement. Intestinal tuberculosis seldom heals, and meningeal and miliary involvement are always fatal.

The therapy in tuberculosis consists of dietary measures, improvement of the hygienic surroundings, and heliotherapy. Modern observers have noted that a high fat and high protein diet, with one relatively low in carbohydrates, is beneficial. Heliotherapy is indicated in all forms of tuberculosis except the pulmonary type. Good results have been obtained with pneumothorax treatment in pulmonary tuberculosis in the tertiary stage. The problems of tuberculosis are first the avoidance of infection during early infancy, keeping up the normal nutrition of the body, and the prevention of the loss of immunity of the organism.

Immunity to tuberculosis can only be obtained by a previous infection. For this reason, it is true when we say that child is more endangered who has not yet come in contact with the tubercle bacillus, than one who has, and has recovered from the same. This brings us to the question of prophylactic immunization for tuberculosis. Koch, Pasteur, Dixon, Theobald, Smith, Calmette, Baldwin, Williams and others have worked on various methods without success. Just this past year, there has come under discussion the prophylactic vaccination of children. The bacillus Calmette-Guerin is used, or better, the B.C.G. vaccine. This is a bovine type of bacillus, at one time pathogenic for cattle, guinea pigs, and rabbits. By repeated cultivation on bile potato medium, it had lost its virulence. It is claimed by Calmette and his workers, that this bacillus has the

power of forming localized tubercles, producing antibodies, and causing an immunity to a virulent human bacillus. Other observers as Noble, Gerlach, Kraus, and Selter, claim this organism may become virulent by repeated animal passage and that it is not without danger. Petroff was able to isolate two strands of organisms from the B.C.G. culture—the “R” and “S” colonies, the “R” colony causing tubercles that heal, the “S” colony producing a progressive disease and death. For this reason, it seems inadvisable to vaccinate infants during the first week of life for tuberculosis with the B.C.G. vaccine as advocated by the French school. Our only means of preventing high infant mortality from tuberculosis, is to remove the child

the first two years of life from direct exposure to tuberculosis. By keeping up the natural immunity and normal nutrition, the human body is able to combat exposure to the tubercle bacillus, if it is not of an overwhelming nature and providing it does not come during early infancy.

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EYE FINDINGS IN CERTAIN INTRACRANIAL COMPLICATIONS*

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The intracranial lesions to be considered, in which the fundus oculi is often involved, are as follows:

1. Skull fractures and injuries.
2. Extra dural hemorrhages and hemorrhages into the meninges.
3. Hemorrhage intracerebral.
4. Brain tumor and abscess.
5. Basilar gumma and tuberculosis.
6. Serous meningitis—Basilar type.
7. Pituitary abnormalities.

These intracranial lesions, with their associated involvement of the contiguous or adjacent brain areas, may, speaking in general terms, give rise to the following implications:

1. Either the intra or extra ocular musculature or both is implicated in the way of paralysis or paresis.

2. The fundus oculi is the seat of an accompanying lesion, principally a papilledema or an optic neuritis or both. Vascular lesions and secondary retinal and chorioidal changes.

3. The form or color field (one or both) independent of any fundus lesion per se are infringed upon. The hemianopic (homonymous type) field is the more characteristic for the larger number, while the bitemporal and binasal fields are characteristic of but a very limited number of intracranial lesions. The latter is due to a

single or dual lesion at region of lateral chiasm angles. The former is often caused by pituitary or basal lesions in region of posterior chiasmal crus. The homonymous fields result from optic tract lesions or from optic radiation or from primary center or cuneus lobe lesions.

It is due to the close anatomical relationship between the globe and the brain that the former is so often pari passu implicated in brain lesions. Not only is the general cranial nerve association intimate, but the blood and lymph supply are likewise closely connected. So also is the sympathetic system of brain and eye very intimate. The entire cranial ventricular system is, on account of the optic nerve vaginal sheaths, very closely associated by intercommunications.

The above generalization will permit the following:

1. In the degenerative brain processes such as the meta luetic diseases, (tabes and general paresis), give rise to the characteristic optic atrophy (usually, though incorrectly called primary atrophy).

2. Because of the fluid stasis either within the brain or optic nerve sheath or both, simple papilledema supervenes.

* Presented before the Ophthalmological Section of the Michigan State Medical Society on September 27, 1928.

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3. Because of the extension of the inflammatory processes at the base of the brain, either into the optic nerve sheaths or into the nerve proper (as a neuritis, perineuritis or interstitial neuritis), the so-called optic neuritis and retrobulbar neuritis.

4. All cranial lesions limited to the basilar portion of the visual tract—whether of an inflammatory or mechanical character, do not at first produce visible optic nerve or fundus changes, but cause changes in the field of vision, ranging from simple constrictions (form and color) to complete blindness. This implication can be either unilateral or bilateral with or without central scotomata, being near the chiasm—characteristically bitemporal hemianopsia—if at the optic tracts it is homonymous hemianopsia. The latter type of field also prevails in the lesions posterior to the primary optic centres up to and into the cuneus lobe.

It is seemingly strange that the nerve in optic neuritis, retrobulbar neuritis and papilledema in any of these lesions can return to either normal or almost normal, providing the basic lesion itself is corrected. If a return to normal does not occur, then a secondary nerve atrophy ensues—a so-called white atrophy in contra distinction to the primary atrophy—either is so well understood further description is superfluous. However, the more moderate this inflammation and the farther back it is in the nerve trunk the more does the neuritis atrophy simulate the so-called primary optic atrophy, and it is then of the descending type.

No one of the nerve head involvements is due to any particular intracranial complication, and therefore it is of itself no diagnostic criterion other than that an intracranial lesion exists. Certainly these optic disk findings are not to be taken as a definite localizing symptom. Should, however, the disk lesion be strictly confined to one eye than the causative cranial lesion is on the same side. If the disk lesion is bilateral, the more pronounced one does not signify that the cranial lesion is on that same side. Often times it is contralateral and the more advanced one also may be contralateral. In case of brain abscess, in which the element of toxicity is usually a prominent feature, the optic neuritis or choked disk may be homolateral.

Usually upon the subsidence of the brain lesion, the fundus lesions abate; only in sinus thrombosis or otitic metastatic brain abscess the nerve head often becomes af-

fected after the original cause has been surgically remedied. This is due to the toxic element in such cases. Even the choked disk abatement in brain tumor or abscess is not a definite indication that the brain lesion is on the mend. This apparent recession of the edema may be due to the atrophy of the nerve fibers and consequent shrinking of its elements. Therefore one must carefully weigh the findings before drawing definite conclusions as to location and etiology of the brain lesions.

The only diagnostic value of a papilledema is that an increased intracranial pressure exists—provided an intraorbital lesion, a cardiorenal, or an associated haemic dyscrasia can be excluded. On the other hand the persistence of a papilledema beyond a reasonably short time is a veritable cause for a cranial decompression; or, in the absence of a tumor, repeated spinal fluid drainage. This is a clinical procedure to follow beyond any facts to contrary notwithstanding. In case of decompression, the side of the more advanced ocular involvement is chosen—other things being equal.

It is a fallacy to determine the intracranial pressure by the spinal fluid pressure for the following reason: There is not in every individual a free communication between the several cranial ventricles (dural, arachnoidal and other spaces) and the spinal canal—hence a low spinal fluid pressure does not necessarily signify a corresponding low intracranial pressure and vice versa. In the normal individual the intracranial varies as much as does the normal intraocular. Brain swelling and increased intracranial pressure are not one and the same. The reformer displaces the intracranial fluids sufficiently, while the latter cannot displace the former as markedly.

The distinction between a choked disk and an optic neuritis is as follows: Both are signs of active pathology, the former a swelling without any initial inflammatory manifestations, the latter with. Fundamentally there is this difference. Choked disk is consistent with a normal functioning retina and nerve—optic neuritis, not. If a papilledema per se leads to permanent functional loss it is due to an engrafted neuritis and its subsequent atrophy. It is my clinical observation that an optic neuritis from any cause whatsoever, existing for a brief time will never permit a return to full normal function—while a true choked disk, existing even for a longer period than a neuritis, full func-

tional restoration often ensues. Necessarily it is understood that the underlying pathology in either instance has been removed. When the field or visual acuity begins to decrease in a papilledema at that very moment a neuritis has been engrafted.

As patients frequently do not complain of visual disturbances when a papilledema exists, it is of the utmost importance to frequently examine the disk in case of the suspected intracranial lesions mentioned, in order not to unduly delay a decompression. Too often it is delayed too long, and done after irreparable nerve changes have taken place. A decompression will not interfere with any other ultimate surgical procedure necessary, but it does safeguard your optic nerve. These remarks hold true whether or not there are any localizing symptoms to favor right or left decompression. Generally it is the better surgical judgment to operate on side of greatest edema, and the greater visual reduction, if such exist.

Hemianopsia, whether transient or permanent, is a valuable localizing symptom for tumor or abscess of the temporo-sphenoidal lobe. Either is likely to impinge upon the association fibers running between the cuneus lobe and the geniculate bodies—the so-called Meyer's tract (cuneo-pulvinar). This tract is often caught between the tumor or abscess and a distended ventricle. Repeated examinations of both form and color fields are necessary, as these fields vary from day to day. The patient is often not cognizant of either field constriction.

Temporary obstruction of the cerebral circulation may produce an intracranial pressure, giving rise to dilated and tortuous veins and extreme disk redness. The entire process may quickly subside. Simple congestion of the disk from above cause does not necessarily lead to papilledema.

Papilledema appears almost instantly when the central cerebro-spinal circulation is suddenly blocked, producing a so-called obstructive internal hydrocephalus.

Generally speaking, brain abscess does not produce the intense papilledema as does a brain tumor.

The fluids of the posterior half of the eye are discharged into the optic prolongations of the leptomeningeal paths of the cerebro-spinal circulatory system. The intraneural, pericapillary and perivascular sheath of the retina and optic nerve are not true lymphatic spaces, though un-

doubtedly some lymphatic channels do exist at the orbital apex of this system.

Normal cerebro-spinal fluid does not coagulate. When its chemical properties are altered by irritation or inflammation it can more or less coagulate. It is this altered fluid, in any of the above spaces, which causes the changes in the optic disk—hyperemia or moderate edema or even neuritis.

DISCUSSION

Dr. W. R. Parker (Detroit): I wish to state at the outset that Dr. Suker has great advantage over me and in opening the discussion on my paper he knew he was going to do it and came loaded and I didn't know it. He comes with a paper in his pocket and I come with no discussion ready so I am seriously handicapped. I do appreciate very much the paper that Dr. Suker has given though I don't agree with him entirely. I probably would agree with him if I had time to think it over and study the thing out carefully. For the most part, however, I do agree with him.

We get choke disk in cases in which we are able to study carefully in at least four conditions:

1. In brain tumor;
2. In cases of multiple sclerosis, of which there are some ten, fifteen, or twenty cases on record in the section which carries the blood vessels;
3. In cases where the edema leads to a little swelling and pressure on the vein; and
4. Another condition which leads to choke disk is occasionally a case of sarcoma involving or surrounding the posterior section of the globe and involving the optic nerve.

There is one more and that is in nephritis. We have all seen cases of choke disk in late nephritis which has been of the kind not infrequently diagnosed as brain tumor because of the presence of indications of brain tumor.

There has been a study made in Denmark in the last few years of cases of nephritis with choke disk and without a single exception they found increased intracranial pressure in all cases that showed any amount of choke disk, so the choke disk is probably due in that group to increased intracranial pressure, as Dr. Suker has said.

In general from these groups of cases it would seem that choke disk is produced by a pressure on the optic nerve at the point which carries the blood vessels. In the case of brain tumor this is due to the several spinal fluids being forced into the sheaths and the pressure is produced. In the case of multiple sclerosis it is produced by a local swelling. In the other cases it is a mechanical process.

So far I am entirely in accord with Dr. Suker. The only point which I wish to question is the importance he lays on a one-sided papilledema as a diagnostic point of the tumor being the same side and I don't believe it has anything to do with it.

Some years ago I carried on a series of experiments on dogs and monkeys inducing artificial tumors and measuring the appearance or noting the appearance and measuring the amount of choke disk in the series of cases in which one eye was trephined and the other left normal. The tension in one eye was materially diminished in the dogs, nine dogs and three monkeys. Increased intracranial pressure was introduced by artificial means and in every single instance where there was a marked development in the tension of the

two eyes, the edema appeared first in the softer eye.

It would seem then that the appearance of choke disk in cases of intracranial pressure was purely a mechanical process. If there is an increase in tension in the skull, that pressure will be exerted equally in all directions. The presence of that pressure will manifest itself along the paths of least resistance and if the tension of the eyeball is one element in the resistance at the papilla, then the softer eye will be blown up first.

One of the most important points that Dr. Suker made was when he said that the behavior of your choke disk has nothing to do with your progress of your tumor. Choke disk is but an incident in the life history of a brain tumor. Your papilledema appears. It goes up to a certain definite amount, never more than seven or eight diopters. Gradually atrophy occurs and the process recedes and in the late cases of brain tumors you may have only a secondary atrophy and no choking at all.

So, to make myself perfectly clear, I wish to state that in my opinion the appearance of choke disk on one side may show that the eye on that side is softer and is not a localizing sign.

His enthusiasm about the necessity of some temporal decompressions I agree with in part. These cases, if they are not relieved, will ultimately lead to blindness, and if local symptoms are not present and we cannot definitely locate a definite attack—at the present time Dr. Burn may not agree with me in this statement—it seems to me that the technic of brain surgeons has gone 'way ahead of our ability as neurologists to locate tumors. The technic of brain surgery today is marvelous. Our ability to locate many of the tumors is far from perfection.

Dr. E. J. Bernstein (Detroit): Just before the session I reviewed an interesting case with Dr. Suker.

An interesting case came in the day before yesterday; a young girl of eighteen went to sleep at seven o'clock last Friday night and woke up Saturday morning blind in her right eye. She came to see me Monday afternoon and she has nothing to be seen in the fungus except a slight haziness

in the nasal side of the disk. She has a total loss of field vision except for fifteen degrees and a slight temporal retension, not more than about five degrees more. She has absolutely no other symptom except that the pupil contracts on slight stimulation and then dilates.

I gather from what Dr. Suker said that those cases are practically hopeless, indicating a central lesion probably on the same side. What can be done and am I right in fearing that those things are hopeless?

CLOSING DISCUSSION

Dr. G. F. Suker: I think I appreciate Dr. Parker's remarks very much indeed, however, I perhaps misunderstood, or he did. I limited myself to lesions in the brain, but as regards the unilaterality of choke disk indicating that the lesion is on the same side, I must confess that it is a very valuable sign because of the post mortem findings in the Cook County hospital, and I must assume that to be the guiding factor and particularly if you have your general examination, such as tuberculosis and your syphilis, you have the choke disk on one side and the other disturbances that go along with it, the mental disturbances and perhaps the individual disturbances cause a complication of that nerve on one side, and the only reasonable conclusion is that you have a one-sided lesion because the other eye remains perfectly normal and you cannot have a choke disk unless that other nerve is also involved.

However, I grant you this fact that a unilateral choke disk, if his condition is not taken care of, will eventually involve the other side also. You can have blindness in one eye a long time before the other eye is involved, depending on whether it is extracellular or intracellular. That choke disk that exists in nephritis is not a true choke disk. It is a neuritic choke disk. It is inflammatory, and not a choke disk in the sense of the constriction of papilledema, because in no case, and we have quite a few of these nephritic papilledemas in Cook County hospital, have I ever been able to get a normal field of vision in them, though we get them primarily out of the uremic state.

MOTHER'S MILK A POTENT GERM KILLER

Scientists have known for some time that babies fed on mother's milk were protected in some mysterious fashion from various diseases such as whooping cough, measles, diphtheria and the like.

Now it appears that the mother's milk actually has the power of killing disease germs. Dr. Friedrich Schlaeppi, bacteriologist, Berne, Switzerland, has experimented with milk from nursing mothers and found that the milk has this bactericidal power to a very high degree. If the milk is kept at a mean temperature this power may be demonstrated for sixty hours or more. Such bacteria as get into it are at least very much

retarded in their development if not actually killed. The milk is even able to destroy bacteria which do not normally occur in it. Boiled milk has not this power. The boiling destroys the milk's germicidal properties.

Dr. Schlaeppi has succeeded in filtering milk, obtaining a clear greenish liquid which contained albumin but no fat. The germs naturally contained in the milk stayed back with the fat, but the power to kill bacteria remained in the clear filtrate. This was proved by adding germs to the filtrate, which destroyed them.—Science Service.

THE FUTURE OF SURGERY

In a survey of the future of surgery, Lewis Hugh McKinnie, Colorado Springs, Colo, asserts that men imperfectly qualified, even assuming a liberal standard, are doing surgery in every community. Students, under present conditions, cannot be adequately trained for the diverse activities that they will inevitably assume after graduation. The public is not safeguarded by the present diploma from a medical school, however well accredited it may be, since it seems to imply special qualifications as a surgeon or specialist,

which it cannot guarantee. The financial burdens devolving on the surgeon-to-be are so heavy that they seriously impede adequate training. He says the growing strength of the university and its ascendancy in medical education suggests: (1) the graduate school of medicine as the coming standard; (2) the separation of the special fields of medicine prior to the granting of degrees, and (3) university of postgraduate study leading to a special degree.—Journal A. M. A.

THE LATENT JAUNDICE OF LOBAR PNEUMONIA

NORMAN W. ELTON, M. D.*

The following charts show the results of icterus studies in thirty cases of lobar pneumonia admitted on the Medical Service of the Highland Park General hospital from August 1, 1928 to March 1, 1929. In addition to these, six cases of empyema and twelve of broncho-pneumonia were studied, making a series of forty-eight cases of pneumonia. The empyemas and broncho-pneumonias are not charted because no disturbance in blood bilirubin from normal was encountered. Chart A presents the results of daily icterus index studies in seventeen crisis cases. Chart B shows the daily icterus index variation in thirteen fatal cases. Chart C gives the results of daily quantitative serum bilirubin determina-

tions and Van den Bergh reactions in thirteen cases. A preliminary report at the start of this study was published in this journal in December, 1928.

DISCUSSION

Heretofore only cases showing frank clinical jaundice in lobar pneumonia have

CHART A		CRISIS CASES																					
SERIES NO.	DAY OF DISEASE																				CHARACTERISTIC WBC	NOTE	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
2				11	15	18			13	12										7	13 900	LL	
4							5	11													30 200	LL	
5				10	12	14	18	25	28	10	20	14									7	13 000	RM
7					8	7	17	20	20	23	10	14	9						9		25 600	BL	
8		9	10	7	9	6	7											7			22 000	LL	
10					13	9	9	8	8										8		26 000	LL	
14						5	7	7				7									14 300	RL	
13				11	13	18	10	8		9												LU	
14				11	10	9	9	9	7										7			LL	
15				6	4		7	8	5	6												RL	
16						9	8											7				LL	
22								C	14			7						5			12 100	RL P	
23		6		5																		RL I	
24							5		3												19 000	RL I	
28			10	6	6	3	3		3												14 400	LL	
29					10	8	5	19	15	20	15	10									12 200	EL S	
30					4	7	3			5											18 900	FRO I	

LEGEND

LL= Left lower lobe
RM= Right middle lobe
BL= Bilateral lower lobes
RL= Right lower lobe

LU= Left upper lobe
P= Empyema
EL= Entire left side
FRO= Entire right side

I= Intestinal
C= Day of crisis

CHART B											FATAL CASES	
SERIES NO.	DAY OF DISEASE								CHARACTERISTIC WBC	NOTE		
	1	2	3	4	5	6	7	8				
1				7	11	14	^D 18		14 500	LL		
3					14	9	14	D	13 900	BL		
6		9	10	^D 10					2100	ERS		
9							^D 9		31 000	LL PO		
12						10	17	^D 17		LL		
17				5	4	D			22 900	RU I		
18					6	6	6	D		BL I		
19		8	D						2200	BL PI		
20			10	D					10800	BL PI		
21					10	D				BL I		
25				8	13	^D 15			2800	RL		
26	3	D							6100	RU		
27		5	5	5	7	6	7	^D 8	3500	RU		

LEGEND

D=Day of death

PO= Post-operative

OTHERS AS ON CRISIS CHART

CHART C QUANTITATIVE BILIRUBIN														
Milligrams per 100cc														
SERIES NO.	DAY OF DISEASE													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CRISIS CASES														
13				1.03 B	1.0 BC	.6 B								
14				1.45 B	.75 D	.79 D			.81 NC					
16							1.3 B	.7 BC						37 N
22									C	1.25 P				31 b
28			1.9 N		1.1 NC				.46 N					
29				1.7 N	1.4 N	2.2 B	1.3 B	1.6 B	2.5 BC	1.4 D	1.25 D			
30				.4 NC	.45 NC	.34 NC								
FATAL CASES														
12						.67	1.7 B	1.3 BD						
17				.31 b			D							
20			1.1 P				D							
21						1.13 B	D							
25				.54 N	1.2 B	2.3 BD								
27						.8 b		1.1 B	1.04 BD					

LEGEND

N=VAN DEN BERGH DIRECT REACTION

B=" " " " " "

P=" " " " " " "

C=CRISIS

D=DEATH

NC=NEGATIVE

BD=BIPHASIC

PROMPT

b=Weak

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been reported in the literature. These findings convincingly demonstrate that latent jaundice and a mild toxic hepatitis occur far more consistently in lobar pneumonia than in any other disease not involving the liver directly. This research was undertaken because of the known bile-solubility of the pneumococcus, and to test the theory that lysis of pneumococci in lobar pneumonia is accomplished by bile, or some undetermined constituent of bile, which is present in the blood stream in sufficient concentration in a given case of the disease to bring about this phenomenon. Here we do find, in a disease caused by a bile-soluble organism,

a latent icterus not encountered so consistently in other fevers. It is strong presumptive evidence in favor of the theory.

In two cases where sputum was obtainable at the time of the crisis, the action of crisis serum from the corresponding patient upon the pneumococci in the sputum was tested. It was found in both these cases that the serum not only dissolved the pneumococci in a few hours, but also partially dissolved the fibrin and mucus. This makes an excellent test-tube demonstration of the process going on in the lung during the hours of the crisis. This technique will not be fully reported until observed in more cases and adequately controlled.

Lobar pneumonia this year, perhaps due to the prevalence of influenza, has been a most interesting study. A large percentage of the cases are very atypical. This has added a great burden to the correct interpretation of the icterus index disturbance.

SUMMARY

In a series of thirty consecutive cases of lobar pneumonia terminating in crisis or death, a blood bilirubin disturbance was found in 80%. This percentage becomes 95 if cases occurring during the prevalence of influenza are excluded. In seventeen crisis cases the maximum icterus index occurred on the day of crisis in eight or 48%; on a day preceding the crisis in four or 24%; after the crisis in two or 12%. No disturbance occurred in two influenzal cases. In 48% of these cases a persistent elevation of the index was found for several days following the crisis. In a series of thirteen fatal cases a maximum index at the threshold of clinical jaundice was found on the day of death in ten.

Quantitative bilirubin determinations confirm the icterus index variations.

The biphasic prompt Van den Bergh reaction was commonly observed, even in cases with only slight elevation of the icterus index.

Pregnancy was present in three cases. All aborted and two died. In these a latent jaundice was observed and in two the Van den Bergh direct reaction was prompt, indicating a more severe liver involvement than occurred in the non-pregnant cases.

Empyema cases, though one showed an elevation of the index during the first few days, invariably gave normal readings after the establishment of the pleural exudate.

Broncho-pneumonia in twelve cases showed no disturbance of blood bilirubin, with one exception, which was doubtful, and may have been lobar.

In two cases when sputum was obtainable at the time of crisis, crisis serum from the corresponding patient was found to be a solvent for the pneumococci and fibrin contained in it.

CONCLUSIONS

1. A latent jaundice and toxic hepatitis occur in primary lobar pneumonia far more commonly than heretofore reported.
2. This jaundice bears no relationship to the anatomical location of the lobe involved.
3. During an influenza epidemic many cases do not show a latent jaundice.
4. The elevation of the icterus index is of definite diagnostic value in differentiating primary lobar pneumonia from secondary lobar and broncho-pneumonia. It is also of some prognostic value.

Note: The review of the literature on bile-solubility and the occurrence of jaundice in lobar pneumonia is very interesting, but space allotment does not permit its publication in this paper.

RADIUM COMMITTEE PLANS METHODS OF INVESTIGATION

The committee recently appointed by Surgeon-General H. S. Cumming of the U. S. Public Health Service to study the problem of radium poisoning occurring in New Jersey factories has just met here to consider plans for beginning the study. All details of method and procedure were discussed and decided upon. According to present plans the study will be finished about July 1.

Radium poisoning occurred among employees of luminous watch dial factories in New Jersey, causing illness and death in some cases. While the poisoning cases occurred among the girls en-

gaged in painting the dials, all employees were found to be exposed to radium in varying degree. The present study is to determine among other things just how much radium is absorbed by the bodies of the workers, how this will affect their health and what safeguards may be taken. About 200 persons are engaged in the industry. Detailed physical examinations of these individuals will be made. The committee consists of public health and other physicians, including members of medical school faculties.—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

THE PURPOSE OF THE BUREAU OF
INDUSTRIAL HYGIENE

A Bureau of Industrial Hygiene has recently been created in the Michigan Department of Health, a division of public health service looking to the interest of industrial and mercantile establishments in their efforts to safeguard the health of their employees.

The general purpose of this bureau is to keep in practical touch with the health problems affecting industrial workers; to become familiar with the changes constantly taking place in the rapidly growing and highly specialized field of industrial hygiene, to be able, thereby, to give counsel and aid, as occasion may demand. To this end the main functions of the bureau will be:

1. To study the general progress of health service in industries in relation to the various influences that affect the physical and mental well-being of men and women in their employ.

2. To note the types and extent of health service best adapted to Michigan industries, dependent upon their size and the nature of work conducted.

3. To aid in devising and establishing generally accepted standards for practical application of hygiene in industries.

4. To secure data on important items such as occupational diseases and industrial hazards.

5. To establish consulting and advisory relations with health departments of industries; to serve as an exchange medium for procedures proved to be most effective in health promotion and care.

6. To supervise the collection, preparation, and distribution of pamphlets, bulletins, and other material for education in industrial hygiene.

7. To aid in establishing co-operative relations between health departments of industries and local health departments, medical societies, and district nursing, welfare and educational units.

The first step toward the establishing of this bureau was to conduct a survey of industrial and mercantile establishments to learn the nature and extent of health service now being promoted by them; to discuss with plant executives some of the main objectives of their health work; to get their reactions and recommendations as to the value of certain measures, also

their anticipated improvements, and to offer an assistance possible from the Michigan Department of Health.

The survey has thus far covered about 100 establishments with employees numbering from 150 to 30,000. No particular preference was shown as to industries visited, the aim being to visit those in which could be observed both the very limited and the most inclusive scope of measures employed in the care of injured and ill employees.

The items noted in the survey are: Staff of physicians and nurses, equipment, physical examinations, dispensary or health department service, relations with "family" physicians, safety measures, welfare programs, benefits derived from the health service in general, and recommended variations and improvements.

The data gathered in this general survey is enlightening as to the rapid growth and possibilities of industrial health work. It is also reassuring as to the valuable contribution well organized health work in industries can make to the field of public health. A resume of some of the significant points brought out by the survey will be included in these columns next month.—F. A. P.

THE HIGHWAY WATER PROTECTION PROGRAM

Supervision of roadside drinking water supplies has been an important part of the summer program of the Bureau of Engineering for the past four years. With the increasing attention paid to resort promotion in Michigan, as well as in other states, has come added interest in this phase of summer health protection.

Work on the roadside water survey was conducted during 1928 in the same general manner as in previous years. One more man was used than in 1927 and consequently the work was completed in shorter time. In 1927 the total time covered by the collection work was 83 days from June 1 to August 22. In 1928 only 53 days were required from May 21 to July 14. In 1927 the work covered 84 working days, and in 1928, 68 working days. This improvement is advantageous because it enables the work to be finished and the signs posted in time to be of more service to the traveling public during the resort season. Posting was begun on June

11 and completed on July 24, about a week earlier than the previous year.

In spite of the fact that less time was used, more samples were collected. In 1927, a total of 1,196 sources were tested and in 1928, this number rose to 1,380. The length of trunk line roads covered was probably about the same as in the previous year.

FIELD PROCEDURE

Previous to 1928 the samples collected during each day were mailed to the Lansing laboratory at some time in the latter part of the afternoon, depending upon the parcel post mail. In some places the last mail of the day left rather early and when packages were mailed at such times and places it necessitated stopping work early in the afternoon. In 1928 the system was changed and the collector was introduced to mail shipments at convenient places about noon or early afternoon. Samples collected after the shipment was mailed were protected from excessive heat until they were shipped the next day. No unfavorable results appeared from this method of procedure and considerable of the collector's time was saved.

SIGNS

An effort was made in 1928 to have the signs indicating the safety of municipal supplies erected by the highway department. Unfortunately this was not satisfactory because of the delay in erecting the signs and in reporting to us what had been done. The amount of time saved by the posting of the municipal signs by the highway department is negligible because their erection by our man when he is on the road posting individual signs does not delay him sufficiently to enable him to finish his work any sooner.

CAUTION SIGNS

In 1925, 84 caution signs were erected. These were placed by the highway department near the limits of the municipalities. The locations of these signs created the wrong impression in the minds of many people. It was assumed that they were a warning against the use of the water supply in that particular town, which was entirely different from the publicity contemplated and desired. These caution signs were removed in 1928.

During the past season caution signs were erected at 93 points along the main traveled highways and were quite evenly distributed over the southern peninsula. Some of the posts were equipped with two signs, one to be read from each direction,

and some of them had only one sign. In general, the single signs were placed near the borders of the state and so faced that they would be conspicuous to those driving into the state. All caution signs were placed in the open country well removed from advertising signs. Black letters on an orange background enable these signs to be read quite easily even from a rapidly moving automobile. Judging from comments, the educational value of these signs is high. They teach the people to look for smaller individual signs indicating a safe drinking water source.

A total of 157 signs was erected at the 93 points mentioned. It is hoped that more caution signs can be erected during the coming summer. Quite a number should be placed in the Upper Peninsula and the remainder of these in stock could be advantageously distributed throughout the Lower Peninsula.

The problem now is to cover the state completely enough with individual signs that no great difficulty will arise in finding a safe drinking water. Some of the county roads, particularly those heading to popular and populous resorts, should be covered in 1929.

UNSAFE SOURCES

Thus far it has been our policy not to post unsafe sources. There are a few municipalities, particularly small ones, where it has been difficult to arouse enough civic pride to insure the appropriation of sufficient money to make the public water supply safe. It might be wise to place conspicuous signs on the main traveled roads entering these places warning the public that the public water supply is considered unsafe for drinking purposes. Perhaps such advertising unfavorable to the municipalities would assist in awakening the public officials to the danger and to a sense of their duty and secure the needed correction.

GENERAL RESULTS

Total time covered by the work May 21 to July 12.....	50 days
Total samples collected.....	1,407
Total sources of samples analyzed.....	1,380
Total samples analyzed.....	1,389
Average number of samples per collecting days.....	21.7
Miles of trunk line covered.....	6,435
Average miles trunk line covered per collecting day	94.6
Average distance between samples in 1927 was	6 miles.
Average distance between samples in 1928 was	4.66 miles.

Records of the State Highway Department show that there is a total of 7,544 miles of designated trunk lines in the state. Included in this mileage are 413 miles of earth roads, 60 miles of impassible, 78 miles which have been graded and drained, and 10 miles which have been cleared only and not yet open, leaving a

total of 6,983 miles of roads paved or surfaced with gravel.

COMPARISON OF RESULTS FOR FOUR YEARS

Year	Miles Covered	Sources Tested	Number Safe	Per Cent Safe	Number Unsafe	Per Cent Unsafe
1925	1,787	427	272	63.7	155	36.3
1926	5,479	805	619	76.3	186	23.7
1927	7,190 (?)	1,196	1,000	83.6	196	16.4
1928	6,435	1,380	1,159	84.0	221	16.0

The progressive increase of safe results cannot of course continue indefinitely for the limit has about been reached, and the percentage of safety will probably be reasonably constant in the future. This increase is the best evidence of the value of the work that has been done. There is no doubt that it arises from the fact that unsafe supplies have been improved or their use abandoned.

WELLS, INFLUENCE OF DEPTH

The following table shows the comparison between depth of well and safety for 1925 and 1928. In preparing this table, previous to 1928 all types of wells were included. Dug wells are rarely more than 50 feet deep. They are always less safe than tubular wells. For this reason the inclusion of dug wells in the table of depths affects the record for the shallower wells adversely. Since it is the desire to show by this table the influence of depth only, it seems unfair to include shallow dug wells, and so the figures for 1928 have been prepared by eliminating all dug wells from this table. The increase in percentage of safety as shown in the table for wells 25 feet deep or less is therefore due more to the elimination of dug wells than to the improvement of shallow wells.

25 feet or less					
1925			1928		
Safe	36	27.5 %	153	85.9 %	
Unsafe	60	62.5	26	14.1	
Total	96	100. %	184	100. %	
25 to 50 feet					
Safe	66	67.5 %	221	87.0 %	
Unsafe	32	32.5	33	13.0	
Total	98	100. %	254	100. %	
50 to 75 feet					
Safe	27	77. %	89	88.1 %	
Unsafe	8	23.	12	11.9	
Total	35	100. %	101	100. %	
75 to 100 feet					
Safe	29	78.5 %	79	88.8 %	
Unsafe	8	21.5	10	11.2	
Total	37	100. %	89	100. %	
Over 100 feet					
Safe	49	92.5 %	153	89.5 %	
Unsafe	4	7.5	18	10.5	
Total	53	100. %	171	100. %	

WELLS, INFLUENCE OF TYPE

The following table shows the relation

of type of well to safety for 1925 and 1928:

Tubular					
1925			1928		
Safe	251	71.0 %	951	89.2 %	
Unsafe	103	29.0	115	10.8	
Total	354	100. %	1,066	100. %	
Dug					
Safe	2	7.7 %	46	36.5 %	
Unsafe	24	92.3	80	63.5	
Total	26	100. %	126	100. %	
Springs					
Safe	11	41.0 %	16	64.0 %	
Unsafe	16	59.	9	36.	
Total	27	100. %	25	100. %	

The 1928 results for dug wells have been separated into two classes as follows:

Dug wells, 25 feet deep or less					
Safe	42	39.3 %			
Unsafe	65	60.7			
Total	107	100. %			
Dug wells, 25 to 50 feet deep					
Safe	4	21.1 %			
Unsafe	15	78.9			
Total	19	100. %			

These classifications show that shallow dug wells have a low percentage of safety as mentioned above.

MUNICIPAL SUPPLIES

Samples were tested from 161 municipal supplies along the roads traveled. Of these 140, or 87 per cent were found safe. In addition to those found safe upon analyses, 65 others were known to be safe from information already in the office.

TOURIST CAMPS

Forty-one tourist camps were inspected on the survey. The ratings of the camps based on a composite consideration of camp facilities show 66 per cent good, 19.5 per cent fair, 9.7 per cent bad, and 4.8 per cent not rated.—E. D. R.

A SAVING IN POSTAGE

A net saving to the medical profession of about \$5,000 a year in postage, and elimination of a postage due expense of approximately \$800 a year to the laboratory, has been made possible through a new arrangement with the United States postal authorities. Laboratory blanks have been altered sufficiently to come within the postal regulations for third and fourth class matter and yet give sufficient information so that the bacteriologists can work intelligently.

We always appreciate additional information on specimens in letters from physicians. They add zest to our work.—C. C. Y.

CHILD HYGIENE NOTES

Women's classes in Eaton and Shiawassee counties conducted by Dr. Ida Alexander during March and April have been

completed. The attendance was 2,000. Classes were held in Potterville, Diamondale, Olivet, Bellevue, Eaton Rapids, Vermontville, Charlotte, Mulliken, Grand Ledge, Henderson, Owosso, Byron, Bancroft, Corunna, Lennon, New Lothrop, Vernon, Laingsburg and Perry.

Child Care classes are now being conducted by members of the staff of the Bureau of Child Hygiene and Public Health Nursing in the following counties: Delta, Menominee, Newaygo, Branch, Calhoun and Genesee, with an attendance of 8,991 for the months of March and April, 1929.

VISITS OF ENGINEERS DURING MONTH OF APRIL, 1929

Inspections of railroad water supplies: total 23.

Adrian	Monroe
Ann Arbor	Mt. Pleasant
Baldwin	Pentwater
Detroit (5)	Port Huron (3)
Flint (3)	Saginaw
Ludington	Ypsilanti (2)
Manistee (2)	

Inspections and conferences, water supplies: total 35.

Battle Creek Sub-Div.	Marlette (2)
Berkley	Milan
Birmingham (2)	Milford
Blissfield	Monroe
Carleton	Mt. Morris (3)
Caro (2)	Northville (2)
Centerline (2)	Ontonagon
Clawson	Owosso
Duck Lake	Plymouth (2)
Flat Rock	Warren
Fraser	Wayne
Hillsdale	Vassar (3)
Lansing	

Inspections and conferences, sewerage and sewage disposal: total 9.

Carleton	Roseville
Grand Rapids	Sturgis
Hart	Traverse City
Mt. Morris	Whitehall
Pentwater	

Inspections and conferences, swimming pools: total 3.

Monroe	Wyandotte (2)
--------	---------------

Inspections and conferences, miscellaneous: total 13.

Brighton—Sewage nuisance.
Camden—Sewage disposal for school.
Charlotte—Spring supply.
Lansing—Drop Forge—Oil nuisance.
Lansing—Plumbing Law (2)
Lansing—Smith Chemical closets.
Lansing—Camp sanitation.
Long Lake—Sewage in drain.
Mason—Fresh Air Camp—Water and sewers.
Orchard Lake—Drainage.
Orchard Lake—Seminary—Sewage Disposal.
Pine Lake—Inspection—Scarlet Fever.
Grayling, water, sewerage and sewage disposal.

Full time of one assistant on this work since April 15th.

PREVALENCE OF DISEASE

	April Report			
	Cases Reported			
	March 1929	April 1929	April 1928	Av. 5 Years
Pneumonia	846	772	1,068	859
Tuberculosis	414	500	517	630
Typhoid Fever	22	26	23	32
Diphtheria	411	341	232	345
Whooping Cough	1,049	1,261	581	582
Scarlet Fever	2,034	2,144	1,080	1,316
Measles	2,336	3,750	6,212	3,617
Smallpox	264	264	132	212
Meningitis	209	316	22	14
Poliomyelitis	4	4	1	2
Syphilis	1,146	1,718	1,121	1,302
Gonorrhea	442	979	558	753
Chancroid	9	23	6	11

CONDENSED MONTHLY REPORT

Michigan Department of Health Laboratories

Lansing Laboratory—

	+	—	+—	Total
Throat Swabs for Diphtheria				1064
Diagnosis	39	480		
Release	52	133		
Carrier	12	336		
Virulence Tests	6	6		
Throat Swabs for Hemolytic Streptococci				629
Diagnosis	117	164		
Carrier	35	313		
Throat Swabs for Vincent's Syphilis	59	460		519
Kahn	1493	7942	113	9555
Wassermann	1	5		
Darkfield		1		
Examinations for Gonococci	165	1456		1621
B. Tuberculosis				585
Sputum	61	509		
Animal Inoculations		15		
Typhoid				190
Feces	3	64		
Blood Cultures	1	50		
Widals	11	56		
Urine		5		
B. Abortus	3	56		59
Dysentery		48		48
Intestinal Parasites				32
Transudates and Exudates				653
Blood Examinations (not classified)				194
Urine Examinations (not classified)				259
Water and Sewage Examinations				585
Milk Examinations				111
Autogenous Vaccines				2
Supplementary Examinations				356
Unclassified Examinations				816
Total for the Month				17278
Cumulative Total (fiscal yr.)				151490
Increase over this month last year				3329

Houghton Laboratory—

Examinations made—total for the month	1934
Cumulative total (fiscal yr.)	15512
Decrease over this month last year	315

Grand Rapids Laboratory—

Examinations made—Total for the month	5827
Cumulative total (fiscal yr.)	66348
Increase over this month last year	181
Typhoid Vaccine Distributed, c. c.	1843
Diphtheria Antitoxin Distributed, units	203635000
Diphtheria Toxin Antitoxin Distributed, c. c.	45950
Silver Nitrate Ampules Distributed	10140
Scarlet Fever Antitoxin Distributed, pkg.	141
Scarlet Fever Toxin Dick Test Distributed, c. c.	1120
Scarlet Fever Toxin Immunization Distributed, c. c.	1644
Smallpox Vaccine Distributed, points	14300
Bacteriophage Distributed, c.c.	3613

THE JOURNAL

OF THE

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JUNE, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

THE LEGISLATIVE SESSION

It has become almost a truism that the inhabitants of a state, especially the tax payers, are seized with more or less nervousness when their legislatures are in session. Legislatures are proverbial spenders and taxation appears to be a problem that can never be solved to the satisfaction of anyone. The medical profession has had occasion during the past session of the State Legislature to feel particularly uneasy. During the past 50 years, which is a little less than the life of each of the two existing medical colleges of this state, there has been a remarkable advance in scientific medicine. The credit for this is due partly to the fact that we are living in a scientific age and that the science and art of medicine have kept pace with the general development of scientific knowl-

edge. Credit must be given also to a movement in Michigan at the beginning of this century to eliminate from the practice of medicine healers who were ignorant and unqualified. This movement began among qualified physicians. Standards have been so advanced from time to time that they now equal those of the most enlightened states of English speaking countries.

Medicine started out as a more or less individual affair sponsored by proprietary schools and sometimes by individual cults. Michigan has the honor of being a pioneer in the matter of state education in medicine. The cults have struggled, strutted and fretted their hour upon the stage only to pass out or to assume a minor position. Even 30 years ago it was considered that they should be represented on the Michigan Board of Medical Registration so that we had to be represented by the allopathic, homeopathic and eclectic schools. These cults as such no longer exist. Any desirable features they may have possessed have been incorporated into what has long since become the regular medical profession.

* * *

In an endeavor to bring the old Medical Practice Act up to date, to make it conform with the profession of medicine as it obtains at the present time, a movement was started in the House of Delegates of the Michigan State Medical Society to obtain enabling legislation. This has had the effect of precipitating certain other movements in the legislature which have tended to obscure the whole medical situation. At once the osteopath, chiropractor and christian scientist have become so solicitous in regard to what they feared an infringement on their rights, that they have sought independent boards, which if granted would constitute a retrograde movement and throw us back at least a quarter of a century in the matter of uniformity of medical standards. The governor has vetoed the chiropractic bill; so far so good. The osteopathic measure has been passed by the Senate and House.

* * *

It is apparent to everyone conversant with the situation that there exists a misunderstanding in the minds of many legislators in regard to the whole matter of the healing art. Someone probably has felt himself unfairly dealt with by some member of the medical profession, henceforth he has a grudge against the whole profession. This shows a poor faculty for generalization. It is as if a person who fell

downstairs should move for the abolition of this mode of seeking a higher or a lower level. The members of the medical profession are human; they do not claim to be any better nor any worse as individuals than the members of any other profession or social group. They have sought to improve their profession as such and to advance medical knowledge by encouraging and where possible participating in medical research. They have hitherto given freely of their time to indigent sufferers as well as in aiding in the great field of preventive medicine. They do not ask anything for themselves; but they are extremely solicitous of the future of the art and science of medicine; anxious, because they are in a position to realize the medical situation as no one else can be expected to realize it.

The admission of the healing cults to rights and privileges (and also may we add responsibilities) of medical practice is tantamount to admitting a layman who has a smattering of business law to the right to practice every branch of law, or a person who has acted as an architect's building inspector to practice architecture on the same terms as a master, or the person with not even a smattering of the science of engineering to engage in the erection of some gigantic structure.

If the attitude of a considerable portion of the legislature can be said to reflect the opinion of the state regarding scientific medicine, there is a big field for health education as it has been carried on by the Joint Committee on Health Education. However, with the ample facilities for medical training which the people of Michigan have provided at the state university it is difficult to realize that they would endorse the legislative acts of some of their representatives.

THE MORON AND THE MOTOR CAR

An investigation has been made into the mentality of those charged with traffic violations in Detroit. One hundred cases were selected at random by a judge of the recorder's court. The examination was made by Dr. Theophile Raphael, the court psychiatrist. Forty-two cases of the hundred violators were found defective in some respect; seven showed significant defects in hearing and fourteen in vision, of whom four were color-blind. Forty-six violations were by persons in a state of intoxication. One was definitely insane and twelve were classified as feeble-minded. This is rather a sad reflection on the tribunal who

granted licenses to these subnormal drivers.

Of the hundred, 63 carried no liability insurance. Of course we would be surprised if the kind of driver mentioned did carry insurance. The individuals usually have no regard for others; they have nothing and their helpless victims, in the event of accident, have no redress. Of law making there is no end. However, it should be made a statutory offense for anyone to drive an automobile unless he were financially able to take care of any damage he might cause, or were compelled to carry a personal liability insurance in some good company who could perform this service for him. One's inability to obtain such insurance should eliminate him from the streets and highways as an automobile driver.

The revelation of this investigation points to a serious condition, one which, unless something drastic is done soon, will increase in gravity and become a positive menace to road safety.

A COMMON NEWSPAPER "CAUSE OF DEATH"

It is becoming a little monotonous to regular readers of the daily press to learn that "Mr. Gotrox, the well known financier of New York city, died at Blank hospital from the effects of a surgical operation performed to relieve an intestinal condition." The gentleman in question undoubtedly had a carcinoma of the colon for which a colostomy was performed or an enterostomy was done to relieve an intestinal obstruction. If the patient refused an operation to relieve his obstruction and succumbed, would the newspapers say "Mr. Gotrox died from the effects of his refusal to have an operation performed for the relief of intestinal obstruction?"

If on the other hand a prominent citizen died from pneumonia and was given oxygen in an endeavor to save him from asphyxiation, would our friends of the daily press say "Mr. Gotrox died from the effects of the administration of oxygen administered in the treatment of his pneumonia?" Suppose that Mr. Gotrox died from pernicious anemia, why should not the daily "Blow-hard" announce to the public that "Mr. Gotrox died from the effects of some transfusions of blood administered in the treatment of his pernicious anemia?"

A surgical operation for the relief of a life-endangering disease is a therapeutic measure! It is a treatment administered

according to the best judgment of the surgeon in an endeavor to save the patient's life. How long before the editors will realize that it is the disease that carries off the patient, and not the remedial agent used to cure the disease? Surgery is only one of the many agencies used by the medical profession in its increasing war on infection and disease. It is just as logical to state that the patient died from a dose of medicine as to state that he died from an operation. It is true that patients occasionally succumb to anesthesia, shock or hemorrhage, but very rarely.

It is disease that wears down the resistance in an individual so that he is unable to overcome mankind's enemy and it is this which unfortunately prevents the success of some operative endeavor for relief. Let the newspapers then state frankly in their death announcements in the news columns that "Mr. Gotrox died at Blank hospital after a long illness from intestinal disease."

The mention of a surgical operation, a hypodermic injection or any other form of treatment incident or pertinent to the case is superfluous and misleading. Many less enlightened or timid people who would be benefited by a timely operation are terrorized and prevented from receiving the benefit of this life-saving procedure by this cruel and unwarranted intimation that death was due to the treatment and not to the disease.—L. J. H.

A NOTE OF SYMPATHY

As this Journal goes to press the newspapers contain accounts of the catastrophe which befell the Cleveland Clinic. The whole population is naturally shocked, but the medical profession to whom the Chief of the Clinic and his associates are known with a more or less degree of intimacy, are extremely pained on hearing the news of the disaster. The sympathy of the medical profession of this state is extended to Dr. Crile and his associates. It is scarcely necessary to call to the minds of the medical profession the large place this Clinic has occupied in American medicine.

Our Secretary sent the following message to Dr. Crile:

Grand Rapids, Michigan,
May 16, 1929.

George W. Crile, M. D.,
Cleveland Clinic,
Euclid Ave. and E. 93rd St.,
Cleveland, Ohio.

Permit me on behalf of the Michigan

State Medical Society to extend to you and your associates during this trying occasion our heartfelt sympathy. Be assured that we share with you the mental tribulation and bid you to unfalteringly continue to carry on with increased zeal for our profession's honor which you have so commendably maintained in the past.

F. C. Warnshuis, Secretary.

REPLY

Cleveland, Ohio, May 16, 1929.

F. C. Warnshuis, Secretary.

Many thanks for your message of sympathy referring to Dr. Crile.

Mary A. Slattery, Secretary.

SAYINGS OF A SEPTUAGENARIAN

DR. C. B. BURR,
FLINT, MICHIGAN

Pretense of unworthiness or self-disparagement rarely deceives.

* * *

True erudition is unaccompanied by the blare of trumpets.

* * *

Boastfulness is oftener than otherwise an indication of the "inferiority complex."

* * *

The exercise of tolerance is most difficult for the septuagenarian. "Right" and "wrong" are elusive and misleading words.

Intolerance and personal prejudice when identical as is frequently the case should be concealed.

* * *

A philosopher holds no brief for "righteous indignation" which smacks too much of prejudice and self-complacency.

* * *

A sense of humor is an invaluable asset to an individual or those in attendance upon him.

* * *

To laugh in the right place is an accomplishment.

* * *

To the same extent as appreciation of the humorous is desirable reaction to the silly and coarse as, for instance, the frequent expression "damn" on the stage is pitiful as indicating embryonic emotions. Why do playwrights perpetuate this absurdity?

* * *

Serious scrutiny and searching analysis are not invariably expedient. Enjoyment is impaired through incredulity over the unimportant.

BIZZARRE REMEDIES

A man posing as a physician was arrested in England recently. On being examined he described "ad valorem" as a drug. The Manchester Guardian thinks it might not be without some benefit in that respect. "One tablespoonful of

ad valorem taken every four hours might have worked wonders with many a simple patient, and there is no knowing what an infusion of vice versa in medias res might have done for some people. Equal parts of verb. sap., compos mentis and sine die, well beaten up with esprit de corps, suggests another safe household remedy."—Word Study.

DE NOBIS

"May I remind you of some of your privileges? You and kings are the only people whose explanation the police will accept, if you exceed the legal limit in your car. On presentation of your visiting-card you can pass through the most turbulent crowd unmolested and even with applause. If you fly a yellow flag over a center of population you can turn it into a desert. If you choose to fly a Red Cross flag over a desert, you can turn it into a center of population towards which, as I have seen, men will crawl on hands and knees. You can forbid any ship to enter any port in the world. If you think it necessary to the success of any operation in which you are interested, you can stop a 20,000-ton liner with mails in mid-ocean till the operation is concluded. You can tie up the traffic of a port without notice given. You can order whole quarters of a city to be pulled down or burnt up; and you can trust to the armed co-operation of the nearest troops to see that your prescriptions are properly carried out."—Rudyard Kipling in Canadian Medical Association Journal.

SIR CHARLES SHERRINGTON ON HARVEY

"The work of Harvey, the spirit of it no less than the import of it, provides his eulogy and makes superfluous all other. His great discovery, aside from its intellectual worth, secured an item of knowledge than which no other single item has so served to grow, as from a seed, medicine as we now know it. And it was the reassertion, the rebirth, of the method of experiment which, wedded to observation, had created the medicine—and the surgery—of the civilized world today. To engender medicine anew is to engender a whole world of correlated knowledge; and an attendant world of beneficence no less. The circulation of the blood, the meaning of the heart, the light of a victorious method! May we not affirm that modern medicine does in fact start there? Harvey, founder of modern medicine! He would himself have felt no term can carry richer or lovelier praise from a grateful world."—British Medical Journal.

SINAPISMS

("There is no present reason to know that artificial light can do more . . . than a mustard plaster, which is infinitely cheaper."—Medical Research Council.)

I remember, I remember
The plasters that I've borne—
Those largish squares of mustard
That would sting a hide of horn;
My parent clapped them on all wet,
O! very cold were they—
But what a most outrageous heat
They'd presently display.

I remember, I remember
'Twas all done for the best—
And what a square of red they left
Upon my infant chest!

But, after all, I'm bound to say
That when they peeled them off
They "loosened" or they took away
That infant's "narsty" cough.

I remember, I remember
How doctors changed their face,
And sinapisms bit by bit
Fell from professional grace;
And vitamins and suchlike things
Became the later craze—
Yea, vitamins and calories
And ultra-violet rays!

I remember, I remember
The plaster and its pain—
But smile to think the wheel has swung
Full circle once again;
Back crowd the memories of my youth
And much malicious joy
To think I'm farther off from truth
Than when I was a boy.
—Manchester Guardian.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. A. J. Carlson, Professor of Physiology of the University of Chicago, addressed the Genesee County Medical Society, Flint, Mich., May 1st. Subject was "Physiology of Digestion."

Dr. Thomas Brennan, head of the Psychopathic Hospital, University of Iowa, has been appointed Assistant Superintendent of the Wayne County Training School.

The extract which appears on the cover of this Journal is from a new work entitled "The Mighty Medicine," by Giddings, published by the Mac-Millan Company of New York. The extract is made by special permission of the publishers to whom our grateful acknowledgements are due.

Dr. John Alexander, assistant professor of surgery of the University of Michigan medical school, has been awarded the Henry Russell award for 1928-29, given annually to a younger member of the university faculty who has shown unusual ability in his particular field. The award namely \$250 has been made in recognition of Dr. Alexander's achievements in thoracic surgery.

The recent election in connection with the Wayne County Medical Society resulted as follows: President, Dr. A. S. Brunk. Dr. Brunk is also President of the East Side Physicians Association of Detroit; Vice President, Dr. C. B. Lakoff; Secretary, Dr. S. W. Insley; Trustee, Dr. Frank A. Kelly.

Dr. Frank A. Kelly of Detroit has been invited to open the discussion on the subject of "The Pitkin's Method of Controllable Spinal Anesthesia," which will be presented at the British Medical Association at its Annual Meeting which will be held in Manchester, England, July 22nd to 26th. Dr. Kelly has also been invited to contribute a paper on Spinocain to the British Medical Journal for July 1st. The following Michigan

doctors will attend the meeting of the British Medical Association along with Dr. Kelly. Doctors W. A. Hudson, Nelson McLaughlin, H. W. Plaggmeyer of Detroit, and T. G. Yeomans of St. Joseph, Mich.

CORRECTION

The fourth paragraph of Dr. Alexander Campbell's discussion of Dr. H. W. Hewitt's paper, Radium and Its Usefulness in the Treatment of Malignant Diseases, etc., page 375 of the May number of the Journal should read "Radium has a minimum mortality less than 2 per cent, and the five-year cures following radium show almost as high a percentage as that following surgery."

At the Annual Meeting of the Detroit Otolaryngological Society, (Ear Nose and Throat) held at the Detroit Athletic Club, April 24th, the following were elected officers for the ensuing year:

President, Dr. Carl G. McClelland, Detroit; Vice President, Dr. George E. Winter, Jackson; Secretary-Treasurer, Dr. Don Cohoe, Detroit; Member of the Wayne County Medical Society Counsel, Dr. Fred Munson, Detroit.

A campaign for the raising of \$300,000 to finance a new addition to Grace hospital, the Salvation Army, as well as the Narcotic Education Fund was held in Detroit between the dates of May 12th and 24th. The movement it goes without saying has had the endorsement of the Wayne County Medical Society. The object of the campaign so far as the Grace hospital unit is concerned has been stated to be the reduction of hospital accommodation to meet the needs of people of moderate means.

The thirtieth annual meeting of the American Proctological Society was held in Detroit on May 13th, 14th and 15th. The address of welcome was made by Dr. Edward G. Martin, president of the American Proctological Society and also the Wayne County Medical Society. Among the members and fellows residing in the state of Michigan were, Doctors Louis J. Hirschman, Edward G. Martin, Charles A. Stimson, Eaton Rapids, N. O. Byland, Battle Creek, and John J. Corbett, Detroit. The program of the Wayne County Society for May 14th was supplied by the American Proctological Society as follows: "Fistula in Ano" by Edward W. Jew, Pittsburgh, Pa., and "Constipation" by Walter A. Bastedo, New York city. The main sessions of the Society were held at the Statler hotel where a small but instructive exhibit was presented of pathological specimens, drawings and vascular injections about the rectum and sigmoid. Clinics were conducted at the Receiving hospital, Detroit.

United States Senator James Couzens, Detroit, has created a \$10,000,000 trust fund to promote the health, welfare, happiness and development of the children of Michigan and elsewhere in the world. Dr. Hugo A. Freund has been made director of the corporation whose duty it will be to administer the fund. The trust instrument stipulates that the principal and income must be distributed entirely inside of 25 years. In a statement attributed to Dr. Freund:

"Mental hygiene and child guidance clinics will be encouraged; vocational and educational problems will receive attention; plans for properly supervised group recreation will be assisted; dietetic hygiene, nutritional and other subjects bearing on the health of children will be investigated wherever the indication for the study arises. The Senator feels that the children physically handicapped should receive early consideration from this fund. For the present no research in the pure sciences will be attempted. "Nor will any edifice be erected to serve as a center for the many activities. This fund is for the purpose of assisting and developing those agencies and institutions that are already established, or creating new projects for the welfare of children and supplementing the work already begun in well established organizations."

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DR. ANGUS McLEAN DELEGATE TO CONGRESS OF MILITARY MEDICINE

Dr. Angus McLean of Detroit has returned from London, England, where he has attended the Fifth International Congress of Military Medicine and Pharmacology at London. The meeting was held from the 6th to the 11th of May under the patronage of King George V. Dr. McLean was official delegate from the United States, having been appointed by President Hoover. Two years ago Dr. McLean was appointed by President Coolidge as a delegate to the Congress of Military Medicine when it met at Warsaw, Poland. Dr. McLean also attended the Royal Institute of Public Health in Zurich, Switzerland, from May 15th to May 20th, as delegate of the Association of Military Surgeons of the United States. The Association of Military Surgeons is composed of medical officers of the United States Army, the United States Army, the United States Public Health Service, the National Guard and the United States Veterans Bureau. He was also delegate to the First International Congress Aviation Sanitaire held in Paris. The Congress was opened by a reception by the President of France and Marshall Lauty, head of the air services of France.

While in London Dr. McLean was guest at a reception and Banquet given on May 10th by the Corporation and City of London, which event was presided over by the Lord Mayor. The banquet was held in the historic Guildhall. The invitation and menu of the function were works of art. On May 6th Dr. McLean attended a reception at St. James Palace where he was presented to the Prince of Wales by Sir Matthew Fell. While in London he was made an honorary member of the Royal Army Medical Corps Officers Mess. Dr. McLean is enthusiastic in his commendation of British hospitality.

DEATHS

DR. ARTHUR W. KIPP

Dr. Arthur K. Kipp of Detroit died on May 20th, after an illness of only two weeks. Dr. Kipp was 50 years old and had practiced medicine for 27 years having graduated from the Detroit College of Medicine in 1902. Dr. Kipp was for a number of years associated with the late Dr. E. B. Smith. He was a member of the Wayne County Medical Society and the Michigan State Medical Society. Dr. Kipp is survived by his widow, Mrs. Alma McClellan Kipp.

COMMUNICATIONS

To the Editor of The Journal M. S. M. S.:

At this time when so much is being said about human constitution, I believe the rank and file of the medical profession need help. A review of the literature leaves one in confusion. Pende is most interesting with a wide grasp and deep understanding of the subject. He is difficult to follow in a systematic, practical way. Bauer on the other hand is very comprehensive and full of minute detail, much of no moment to the physician.

It might be interesting for your readers to note that for two years a group of men in Detroit, calling themselves the Human Constitution Studies Club, have been occupied with a study of normal types and it is here where I believe the beginner should start. I might say further that in our studies we have first made a roentgenologic analysis of the individual under study. This includes the sella and an analysis of pituitary characteristics, which to my mind is basically essential.

We feel that the time is ripe for all progressive men to turn their attention to this field. We do also feel that the simpler the system of approach, the more certain the progress.

S. E. Sanderson.

APPRECIATION

Michigan State Medical Society,
Dear Dr. Warnshuis:

In the continued legislative battle which has prevailed during the present session of the legislature at Lansing, mere expression is inadequate in disclosing the appreciation which should go to the active officers of the Michigan State Medical Society and to the Legislative Committee of the Wayne County Medical Society. Such time and effort as has been given is and will be unappreciated by the majority of the members of the medical profession throughout the state as well as in our own Wayne County. The medical profession as a whole are inclined to be non-cooperative when it comes to individual effort; there is a continued feeling that the other fellow will do it. This situation necessarily makes those men who assume responsibility and give their time and effort in behalf of the public and their medical fellows stand out as true representatives, symbolizing the ideal of unselfish effort.

As President of the Wayne County Medical Society I wish particularly to express my appreciation of the activities of Doctors R. E. Loucks and Alfred H. Whittaker. These two gentlemen are truly representative of unselfish effort. I reserve for special commendation our beloved Guy L. Kiefer, who has proven himself truly a state health officer.

With the interest of Michigan's citizens at heart and supported by his loyalty to the high ideals of scientific medicine, he has served faithfully, unceasingly and courageously. Dr. Louis J. Hirschman, President of the Michigan State Medical Society and a member of the Wayne County Medical Society, could not have been excelled in his efforts. And words fail me to comment adequately upon the splendid and experienced efforts of our State Secretary, Fred Warnshuis; one must know

him to appreciate his loyalty, ingenuity and untiring activity.

There are several other members of the Wayne County Medical Society who have given to this legislative battle their best effort and to this group, as well as the members specially mentioned, the medical profession of the state and Wayne County in particular are deeply indebted.

The medical profession have an urge to maintain and raise the high ideals which have developed through the ages with scientific medicine. They are accused of selfish motives. Such accusations come from laymen who are uninformed or whose efforts and statements are motivated by selfish and personal interests. Politically we may be beaten, since we are not politicians, but professional I feel assured that our fight on behalf of the public and all that it signifies will be carried on and on without failure and with an ideal that we may approach but possibly never hope to reach. Such is life in this busy commercial world.

Very truly yours,

E. G. Martin, M. D., President,
Wayne County Medical Society.

PRESIDENT'S APPRECIATION

Michigan State Medical Society,
Dear Dr. Warnshuis:

Now that the legislative session is over, and the smoke cleared away from the battle field, and the casualties on both sides accounted for, I believe our membership should know something about the wonderful work done in behalf of the physicians of Michigan as well as the health of the public by our State Commissioner of Health.

Those who have known Dr. Kiefer during his many years of service in our profession have admired him for his initiative, his tact, and his aggressiveness. Added to this, his keen grasp of situations as they arose and his pugnacious struggle to prevent cults and irregular practitioners from breaking down the wall of health which he has assisted in building in Michigan, has won added admiration from those of us who worked and fought along side of him in this struggle.

I want the membership of the Michigan State Medical Society to know that our medical legislation met the most vicious opposition in this year's legislation that was ever encountered by any medical legislation. That we have succeeded in preventing the dangerous and vicious special privilege legislation for the benefit of the chiropractors and osteopaths is due principally and primarily to Dr. Guy L. Kiefer's patient and persistent efforts. This is quite in line with Dr. Kiefer's policy in his administration of the State Health Department. He has been using every effort there to bring the practice of medicine back to the family physician.

One of Dr. Kiefer's strongest allies and a man to whom we as a profession owe a great debt of appreciation is Senator James T. Upjohn, M. D., of Kalamazoo.

The Michigan State Medical Society can be justly proud of the unselfish and untiring work of Dr. Kiefer. It is a source of peculiar satisfaction to me, as President of the Society to inform the membership of his fine work and to voice our grateful acknowledgement of his services.

Very truly yours,

Louis J. Hirschman, M. D., President.

ANNUAL MEETING INVITATION

Members of the Council,
Michigan State Medical Society,
Gentlemen:

Now that spring has finally arrived we feel that it is incumbent upon us as a constituent member of the Michigan State Medical Society to offer, and one might almost say our regular annual offering, to entertain the members of the State Society at their 1930 convention.

In other words kindly consider that this is the official invitation of the Berrien County Medical Society to the Michigan State Medical Society to hold the annual meeting for 1930 in Berrien County in the twin cities of Benton Harbor and St. Joseph.

We will not at this time present to you the ad-

vantages and the facilities we have to offer for such a meeting, as most of you are aware of the potentialities of this district for such a gathering. We will however at a latter date present to you and the members of the House of Delegates of the Society a detailed list of hotel accomodations, and rooms for section meetings, entertainment and co-operative invitations from the various luncheon clubs, Chambers of Commerce and city officials.

We are writing at this time in order that it may be entered on the records of your body that Berrien County is still in the running and more anxious than ever to act as hosts to the annual meeting of the Michigan State Medical Society and will do all in our power to cooperate and aid in the success of the convention.

Sincerely,

W. C. Ellet, Secretary.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

NOW IT CAN BE TOLD THE 1929 LEGISLATURE

The 1929 session of the Legislature adjourned on May 8th with final adjournment on May 28th. This report sets forth in part the activity of your officers and legislative commission. It is quite impossible to impart the tremendous amount of time, labor, thought, worry and disappointments that attended the work of your representatives. No one, unless intimate contact was had, can fully appreciate the exasperating conditions that existed. Our reaction is one of varying conjectures and conclusions which will later be formulated for presentation to our House of Delegates.

No one will fully and appreciatively know or realize the service and time that was contributed by Dr. Guy L. Kiefer. He served with unfaltering faithfulness and utter disregard for his personal interests or his physical well-being. Page after page could be written recording incident after incident that reflected his zeal and earnestness to enhance our legislative interests. We accord recognition in most sincere terms fully realizing that adequate recognition or appreciation can never be expressed.

Record of appreciation must also be made to Governor Green. Without his aid and support pernicious and harmful bills would have become laws. Governor Green was a true and loyal friend of the medical profession of Michigan.

Commendable and helpful support was forthcoming from many of our members but specific mention of the service and time contributed by President L. J. Hirschman, Dr. R. E. Loucks, Dr. A. H. Whitaker and Dr. E. G. Martin must also be acknowledged. At critical moments, when important decisions were necessary, when compromises or "stand-pat" positions were to be assumed these members were available day or night. As a citation, mention is made of a 178-mile drive through pouring rain between the hours of 9 P. M. and 3 A. M. that these members made in response to an emergency conference call. To them do we extend special expressions of appreciation.

PRE-SESSION EFFORTS

The 19 months devoted to study of medical laws and the drafting of the professional qualifications bill by our Legislative Commission has been covered in reports submitted to the House of Delegates.

When, at our last annual meeting, the Legislative Commission was given mandatory instructions to introduce these bills, the Legislative Commission outlined a program of procedure. County Societies were requested to appoint legislative committees. As fast as these local committees were appointed they were recorded in a special file in the Secretary's office with a list of county presidents and secretaries, state officers and councilors. It was to these officials and members that the com-

munications of the Legislative Commission were addressed. They constituted our contacts throughout the state.

The next step was to send out a questionnaire seeking information regarding each senator and representative and requesting local committees to establish contacts with their legislators.

The third step was the holding of several regional conferences with members and legislators before the legislature convened.

The fourth activity was to participate in several conferences with the attorney general for the purpose of perfecting the legal verbiage of the two bills. When the final draft was completed the bills were printed in *The Journal* and reprints distributed to local committees.

The fifth step was to have several interviews with Governor Green to secure his endorsement of our bills and to designate when, how and by whom they were to be introduced.

Such was our pre-legislative program, readily recited in words but in actuality consuming a vast amount of time, labor and travel.

SESSION ACTIVITY

Our two bills were introduced by Senator Engel and referred to the Committee on Public Health of the senate, of which Dr. James T. Upjohn of Kalamazoo was chairman.

At about the same time there was introduced, in the house, a chiropractic bill. Later, in the senate, the osteopathic bill was introduced.

Now followed a seemingly unending, ever varying, hectoring and trying train of conferences, interviews and discussions that continued through to the last day of the session. They served to also clearly reveal the modern style of political methods. They were concerned with legislators, lawyers, chiropractors, osteopaths, druggists, Christian Scientists, beauty specialists, spiritualists, barbers, publishers of papers, optometrists, chiropodists and fanatics. All of whom had amendments they insisted upon being incorporated in our bills or who felt we were tying a noose about their necks. Even some of our own members created added problems and difficulties. It was a herculean task to deal with these varied groups with their particular quests. That task was discharged at no little cost of temper and worry.

One public hearing was had on the osteopaths' bill. This hearing was at-

tended by some 200 osteopaths and their attorney who was their spokesman. Our society was represented by Dr. Guy L. Kiefer, Dr. R. E. Loucks, Dr. A. H. Whitaker, Dr. G. C. Penberthy and the Secretary.

Eventually the four bills were reported out to the senate and all of them passed the senate. The chiropractic bill was accepted and no oppositions were made to it. Our opposition to the osteopathic bill was unavailing, largely due to a speech made on the floor of the senate by its introducer. This distorted and unreliable speech was later answered by an open letter to all the members of the legislature and our position set forth.

Under the rules, the bills went to the house and were referred to the Committee on Public health of the house. The chiropractic bill went to the Governor and had ten days in which to be signed or vetoed. A gentlemen's agreement was entered into with the chairman of the House Public Health Committee whereby he was to report our bills out in five days so that they and chiropractic bills could be signed on the same day. The five days passed and eight days passed. But two days remained within which our bills had to be reported out and passed or failing, the Governor had to veto the chiropractic bill to prevent it from becoming law.

The Governor was a patient in a Grand Rapids hospital. He was interviewed. He gave us a message at 4 P. M. A hurried trip, through a terrific rain storm, was made to Lansing. Interviews were had with the committee chairman who then finally showed his hand and informed us he would not report out our bills. The Detroit men were called to Lansing and the conference continued till after midnight. Early the next morning the return trip was made to Grand Rapids. The Governor was again seen and later in the day his secretary came to Grand Rapids with the formal veto which the Governor signed at five o'clock—twelve hours remaining ere the chiropractic bill would have become law were it not vetoed.

An interval now intervened in which, by request, several members were called to Lansing for a conference with Senator Woodruff and Governor Green. The osteopaths' representative thought a compromise might be accepted. Our position was definitely stated and by its terms a compromise was not made. We were informed a "fight would be on." Requests were then sent to all County Societies to increase

their protests to members of the house. Again there was evidenced some very good activity by some parts of the state while others remained dormant.

A week intervened with no outward evidence of any move by the Legislative Public Health Committee. Then on May 1st, seven days before adjournment, word was passed out that the chiropractor bill which had been vetoed would be tacked on as an amendment to our professional qualification bill and so reported out with the osteopathic bill. On May 2nd the Public Health Committee of the house reported out the osteopaths' bill, our bill amending the Medical Practice Act and the Professional Qualifications Act which had tacked onto it as an amendment the vetoed chiropractic bill. Your officers and commission felt that they had made sufficient representation to the members of the legislature and therefor refrained from further activity. It was concluded that the best course now would be to permit the legislature to record their vote. If the osteopathic bill passed, our last recourse would be Governor Green.

On May 6th the house passed the osteopath bill. The Professional Qualification Act was reported out with the previously vetoed chiropractic bill attached to it as an amendment. Under the rules both bills were returned to the senate where the osteopath bill was again passed and on a parliamentary point the qualification act with the chiropractic amendment was ruled out of order. The legislature adjourned on May 8th with the result that only the osteopath bill had weathered the session and was before the Governor for signature.

There now arose the final, somewhat hectic incident. After the adjournment, the Governor was flooded with some 2,000 telegrams urging him to sign the osteopath bill—more telegrams than he received on the "Death Penalty Bill." Then about two o'clock, on the afternoon of Saturday, May 11th, the information came through from a reliable source, that the attorneys for the osteopaths had filed with the Governor a lengthy brief substantiating in a most impressive way the osteopathic claims. To the uninformed these claims had face appearance of being conclusive facts, but upon analysis were grossly unsustainable. It was necessary to supply the Governor with refuting facts from reliable authorities. Long distance was employed far into the night. On Sunday, May 12th, our results were transmitted to

President Hirschman, Dr. Kiefer and Dr. Whittaker in Detroit and it was concluded that because of the nature of our returns and an intimation that had been received that a statement from Dr. Ray Lyman Wilbur, secretary of interior and also president of the American Association of Medical Colleges, was of uttermost importance. The pre-emptive order was to come to Detroit. A plane was secured and in an hour and fifteen minutes Detroit was reached. With Doctors Hirschman, Kiefer and Whittaker the entire situation was reviewed. An endeavor was made to summarize the situation in a telegram but it was impossible to do so because of the many related points that were necessary to clearly visualize the situation for Dr. Wilbur. The conclusion was that the Secretary should board a train and go to Washington because our representation had to be in the Governor's hands by Tuesday the 14th. This conclusion was reached at four o'clock. Reservation was secured on a six o'clock train, a pair of pajamas was purchased and Washington was reached at noon on Monday. Dr. Wilbur was interviewed at one o'clock and by three o'clock his signed statement was in our hands. A taxi enabled the catching of the 3:30 train that reached Detroit at 9 a. m. Tuesday and Lansing was reached in the afternoon. The obtained statements and exhibits were placed before Governor Green at 4 p. m.

Governor Green vetoed the osteopathic bill.

Such then is the tale of the 1929 legislature. Deductions, conclusions and opinions may be constructed. Such pronouncements had best be deferred until our annual meeting when a future policy is to be adopted.

In the entire encounter the helpful aid, judgment and devotion of time by the following members of the legislative committee merits every expression of appreciation—Doctors C. T. McClintic, J. H. Sundwall, J. B. Jackson, W. H. Marshall and J. E. McIntyre. At the annual meeting they will submit in their annual report some very pertinent recommendations. Till then, members are bidden to reflect on what has transpired.

HOW SOME OPINIONS ARE CREATED

Collectively we are appraised for an individualistic act. This is evidenced by the following letter. It would seem that it might be well to discontinue about fifty per cent of our public health education ac-

tivity and devote that time to educating the public as to what education is required to become a competent doctor and just what are the objects and activities of medical organizations. Your comments on this past legislative session is solicited.

April 22, 1929.

Louis J. Hirschman, M. D.,
1004 Kresge Bldg.,
Detroit, Michigan.

Dear Dr. Hirschman:

This letter is in reply to your communication of April 16th to the members of the House of Representatives, and also in reply to the printed circular under date of April 3rd forwarded to us by Dr. Warnshuis, Secretary of the Michigan State Medical Society.

In making this reply to you, I do so entirely in the spirit of constructive criticism, holding no brief for osteopaths, chiropractors, or any other school of mechanical or faith-healing, and having in mind, and extending full respects thereto, those sterling, Christian gentlemen who put personal and penurious interests behind them, and look only for the welfare of their patients. I refer to those doctors who look at their profession from the consumer's angle, which, after all, is a mighty fine way in which any of us should view his or her daily activities.

The provisions of the osteopaths' and chiropractors' bills are bringing to the mind of each of the members of the House of Representatives the inference that all is not well in the public mind with regards to the standing of the members of the A. M. A., and the present difficulties that the medical fraternity are experiencing in the Michigan legislature may be considered as a reaction of the general public to the methods and practice employed by *some* of the medical doctors during recent years. In other words, it is the handwriting on the wall that the medical fraternity has spots on it, and is due for an internal housecleaning, properly conducted by its own members and officers.

Within the last eighteen months, an eminent surgeon, during a gathering of men of his kind in an eastern city (and I deplore the fact that I lost the newspaper clipping, which I have had occasion to quote many times) stated that 95% of the surgery performed in America was needless, was merely inflicting a permanent wound on the body, and in the long run was discrediting the medical profession in the eyes of the consuming public. You may know, off hand, to whom I am referring. I am sorry I cannot give you his name as the clipping has been lost.

From my own personal experience, I must say that the medical services rendered to members of my family have been far from satisfactory, and has engendered in me a wholesome disgust of anyone who uses the term Specialist. I will outline some of our experiences briefly.

Exhibit One—Dr. X in 1915 performed an operation on my wife. While the fee charged was very reasonable, the results were almost negligible. Aside from this, the surgeon saw fit in his supreme ego to capitalize socially on the case. I will let you draw your conclusions in your own imagination.

Exhibit Two—Dr. Y in 1925 performed an operation on my wife, making a nine inch incision for a so-called exploratory operation, and removed from her a perfectly normal

appendix, as was proven after the operation by the nurse. This operation resulted in very intestinal adhesions, from which the patient suffers today. Of course, the bill was a trifling \$300, to say nothing of the hospital expense, the pain, fear and anguish. The basic trouble for which she was operated, remains today. Judge for yourself.

Exhibit Three—Dr. Z in 1927 operated on my nine-year-old daughter for what he termed a dangerously acute case of appendicitis. He removed a perfectly normal appendix, as was again proven by the nurse's testimony, sent me an invoice for \$150, which was only a small part of the total cost, to say nothing of the child's fear, terror and pain. Aside from this ailment, which we might in days past recognize as a plain, old fashioned case of belly-ache, this child is a physically perfect specimen. Again I ask you to judge for yourself.

Our experiences are mere samples of what the public is suffering at the hands of cross-road mechanics, who style themselves as surgeons, and who proceed through their crude guess work to abstract money from peoples' pockets by the instrument of fear, which is the same process used by the gunman in his tactics to relieve his victims of their money. Personally, I see no difference in the final outcome in either case if this surgery has been uselessly performed.

It cannot be expected that the general public are going to forever stand defenseless against such tactics as this. In my every day occupation, I am a banker, and many a wage earner comes to me soliciting a loan that his wife, or some other member of his family may have a surgical operation, and I am wondering if this surgery has been as brutal and as foolish as has been performed upon members of my own family, as I know it takes these men anywhere from three months to a year to discharge this debt incurred for such operations. Surely, the practice of "gyp" surgery in the case of low paid working men is an abominable crime.

This tirade may seem a long way from discussing the osteopath bill, but I am not the only one to whom people have told that they have gone from pillar to post, from one specialist to another, submitting to costly treatments, expensive operations, only to find themselves in worse condition than when they started. Some of these people have reported relief by osteopathic or chiropractic treatment. How much depends upon this latter treatment one can make, is questionable.

Now, let us sum this up into one paragraph: Is the medical profession actually performing a conscientious service to the lay public that gives them a cure or a relief *at a minimum of suffering and expense*? That is a question for the A. M. A. to answer, and when the A. M. A. can answer this question absolutely in the affirmative, then it has a right to demand that legislative bodies the country over will protect public health by restricting the business of administering to the sick, to the members of the A. M. A.

Again, I wish to assure you that this letter is intended strictly in the sense of constructive criticism. I like to see people well, and I like to see physicians prosper, but I do not like to stand by silently, just to be a shrewd politician, and see the public buncoed. I feel that it is time for the A. M. A. to rid itself of its fossilized code of ethics, which in the long run are almost mythical, and come down to a true competitive basis that

will give the public value received, the same as the manufacturer, merchant and the public utilities and other forms of human endeavor must do, in order to incur and maintain public good will.

Representative,
House of Representatives,
Lansing, Michigan.
Dear Mr:

I cannot fully convey my appreciation for your letter of the 22nd addressed to Dr. Hirschman with a copy sent to me. I recognize fully the creditable spirit that inspired and prevails through it. I would if I could answer it in full detail. To do so would require nigh on to a tome of pages, consequently I shall advance a few basic generalities.

May I cite first that for over a period of twenty years we have and still are cleaning house! In witness of which I advance the creating of acceptable medical educational standards, eradication of diploma mills, third and fourth rate colleges, standards for hospital administration, standards for interne training, qualifications for licensure, disciplinization of members, education of members, providing post-graduate opportunities for members to enable them to remain abreast of scientific progress, exposing of quacks and quack remedies, censure of fraudulent medical advertising on the part of doctors and a score more of similar activities all directed toward the one end—better educated doctors, more experienced doctors, the eradication of Kant and deceptive incompetency, for the inspiration of scientific competent practice that will result to the ultimate benefit of the people at large and the patient individually. This has been and is our quest. To more fully attain these ends is the underlying reason why we now ask our legislature to not re-open the side or back door that will license undertrained, undereducated and inexperienced individuals to foist their incompetency upon our citizens. Such endorsement by the legislature would lower standards which we have and do seek to maintain to assure competency. We have not gone as far as we would like. There have been many obstacles, legislatures have not been overly sympathetic and we are frequently but unjustly accused of ulterior motives. Nevertheless I can in full sincerity and honesty assure you that we are earnestly endeavoring to acquit ourselves of responsibilities reposed. I hope you will, from this necessarily brief recitation, concede that we are not neglecting keeping our house in order which you in your letter charge us as being derelict thereon.

You ask "whether the medical profession is conscientiously performing a service to the lay public." My answer is unequivocally *yes*. Witness: Our colleges, hospitals, laboratories, clinics; our studies, investigations, discussions and scientific discoveries and acquirements have uncovered hosts of mysteries, superstitions and facts as to disease and causes of deaths. We have materially reduced infant and maternal mortality, defeated typhoid, diphtheria, scarlet fever and other contagious diseases. Established effective principles of hygiene and healthful living and preventive measures. Our results are that in the last decade we have extended the average span of life from forty-five to fifty-eight years. Is this not a conscientious public service?

Further, we are imparting these facts to the people by our extension bureau which during this past winter gave talks and lectures before Parent-

Teachers' Associations, luncheon clubs, Granges and schools to the number of over three hundred with some one hundred eighty thousand attendants wherein we sought to impart to the people the truths of scientific medicine in order that they might know of and obtain its benefits in enhancing life welfare, health and longevity of themselves and their dependants. All of which was done without reference to school, cult or pathy. We have sought to impart that which scientific medicine holds and has for public life conservation and prevention of disease and suffering. Is that not a public service, rendered without cost or financial reward for public welfare? The public is woefully ignorant. Did we make no further discoveries, if the public would ascertain and apply what we *now know twenty-five years would be added to the span of human life*. Do you still accuse us of selfish and base motives? Do you believe we are wholly unresponsive to public weal or woe?

I might continue infinitum in submitting further illustrative facts but this letter will not permit. They are actualities that can be perceived by one if he will but inquire and learn and not be deluded or misguided by the falsifications, biases and unsubstantiable conclusions of those whose desires are ulterior and directed towards the attainment of a golden calf for self-worship and aggrandizement.

Your personal surgical experiences impress me. I cannot in fairness to your doctor, yourself and to myself, voice an opinion without further facts that are essential ere a dependable opinion can be advanced. Unfortunately such experiences are encountered, just as we do in law, banking, architecture and even clergy. None are infallible, yet I have encountered such experience which upon careful investigations uncovered circumstances that were important factors and altered the conclusion. I am not seeking to be evasive, I am trying to avoid conclusions until fully informed. I would welcome the opportunity to clarify the atmosphere for you.

As to the financial problem and cost of medical care permit me to state that we are not unconcerned with economic factors that present day life presents. We are concerned and as evidence of that concern we are conducting a survey that is to cover a five-year period in an endeavor to solve this economic condition. Ray Lyman Wilbur, secretary of interior, is chairman of this national commission. A year of work has been done, thousands of dollars of expense that this survey entails is being furnished by the *doctors themselves* and *not* by any legislature or government. We recognize the problem, it exists, we are endeavoring to obtain rectifying facts. However, in this as in the national problems of finance, marketing and farm relief the solution is not borne of the moment. I respectfully ask you to withhold caustic or deprecating criticism until we are possessed of dependable factors. Many economic and social as well as medical practices are involved in this condition that must be recognized and dealt with ere a solution or criticism can be honestly and fairly pronounced. I do assure you that osteopathic recognition will go far to complicate the situation in this as well as our other problems. Over a period of twenty-seven years of practice I have never perceived a gesture, act or deed on the part of osteopaths that would warrant dependency or lead one to believe that their quest is for public interest or that they were imbued with honest desires to help in solving the existing actualities.

I have thus disconnectedly sought to impart a partial insight of our activities. They are not complete. I trust they create a new viewpoint for you. If they do may I not ask you in return to aid as you can aid by upholding our objectives, by preventing a beclouding of the situation by injecting the factor of state recognition of a pathy that seeks lower standards. *Senate Bill No. 239 should not be enacted.*

If I can further serve you, please command me. I again express appreciation for your letter.

Very respectfully,

F. C. Warnshuis, Secretary.

FRACTURES

Within one day four notices of suits for malpractice in treatment of fractures were received. In two no X-rays were taken. In one, a Colles fracture, no attempt at reduction was made and of course malunion and deformity ensued. In the other attempted reduction is recorded but as no X-ray was had the doctor has no proof that he reduced the fracture and the X-ray obtained by the plaintiffs attorney reveals non-reduction and deformity. There can be no defense in either of these two cases. They are open incidents of neglect, lack of proper skill and care because one was in a town of 10,000 where two X-ray outfits were available and the other in a city of over 75,000 where at least six X-ray outfits were available.

Just why any doctor will be so negligent is unexplainable.

Again do we repeat and urge anew—never assume charge of a suspected fracture or fracture until you have had proper X-ray examinations before and after reduction. If difficulty is encountered in reducing the fracture obtain competent consultants.

CRIPPLED CHILDREN'S CLINICS

By agreement with the Crippled Children's Commission the co-operation and approval of the County Medical Society will be sought whenever a local clinic is to be conducted. It is greatly desired that local doctors will consult with and aid the visiting orthopedist conducting the clinic.

Before a clinic is scheduled County Secretaries will be requested to voice approval. Under this arrangement it is hoped that the conduct of these clinics will not be met with unfavorable criticism.

GOVERNOR'S VETO

To the President of the Senate.

Sir: I am returning herewith, without my approval, Senate Bill No. 239, File No. 152.

Osteopaths have just been given the right to prescribe, administer and dispense narcotic drugs to patients, House enrolled Act No. 283 which has received my signature. But this Bill would go further and give Osteopaths the right to practice

surgery, and have all the other powers of doctors of medicine and surgery. This law would permit those specializing in a single type of treatment to have equal privileges with those who have conformed to the requirements of a complete medical school training such as is provided at Michigan's outstanding medical school at the University.

There is a place for the practice of osteopathy. I am not objecting to it as a profession. There are within this group in Michigan many highly skilled practitioners, and the profession as a whole is accomplishing a great deal in relieving human ailment. They are to be congratulated upon their constant endeavor to advance their standards and requirements. I do, however, maintain that the state should not set up two separate and distinct routes through which to reach the objective of receiving the sanction of the state in the complete and unlimited practice of medicine and surgery.

If, in addition to the additional privileges recently granted, the members of the osteopathic profession wish to be licensed to practice medicine in all of its branches, as provided in this bill, they should meet requirements now made of those who now receive that privilege. I cannot add my sanction to a bill which sets up a double standard of required qualifications.

Therefore, I veto this bill.

Respectfully,

(Signed) Fred W. Green,
Governor.

SENATOR COUZENS' GIFT

April 23, 1929.

Honorable James H. Couzens,
United States Senator,
Washington, D. C.

Dear Mr. Couzens:

Pending more formal action and expression on the part of our officers and members kindly permit me to convey to you at this time sincere expressions of commendation for your recent admirable contribution that will enhance the physical welfare of the child of today—the citizen of tomorrow.

Expressions cannot reflect or record the nobleness of your deed and the untold good that will attend your action. No one can adequately visualize the comfort, freedom from suffering and the efficiency of character and physical constitution that your gift will bequeath to the children of this commonwealth. The knowledge that you have made life brighter and better for these children should and will bring to you a most satisfying pleasure and restful contentment.

We who have striven to bring about a more efficient, administering medical personnel for public welfare are inspired and profoundly grateful to you, for you have co-incidentally aided us in our quest by your example that bids us to continue to bring about a higher level of orthopedic and pediatric services to all of Michigan.

With assurances of esteem, coupled with cordial greetings, permit me to be,

Yours respectfully,

F. C. Warnshuis, Secretary.

April 25, 1929.

Dear Dr. Warnshuis:

I have your letter of the 23rd conveying a most cordial and generous expression of your approval of my having recently created the Children's Fund of Michigan.

Coming from you as an officer of the Michigan

State Medical Society, I am particularly pleased with its encouragement as well as its inspiration. I hope that you and your associates will be able to be helpful to us.

With thanks and best wishes, I am

Cordially yours,

James Couzens.

OFFICIAL CALL

To the officers, fellows and members of the American Medical Association:

The eightieth annual session of the American Medical Association will be held in Portland, Oregon, farom Monday, July the 8th to Friday, July the 12th, 1929.

The House of Delegates will convene on Monday, July the 8th.

The scientific assembly of the association will open with the general meeting held on Tuesday, July the 9th, at 8:30 p. m.

The various sections of the scientific assembly will meet Wednesday, July the tenth, at 9 a. m. and 2 p. m. and subsequently according to their respective programs.

WILLIAM S. THAYER,

President

FREDERICK C. WARNSHUIS,

Speaker, House of Delegates

Attest:

OLIN WEST,

Secretary

HOUSE OF DELEGATES

The House of Delegates will convene at 10 a. m. on Monday, July 8, 1929, in the ballroom of the Multnomah hotel, 269 Pine street, Portlend, Ore.

Representation—The appointment of delegates made at the Minneapolis session of 1928 entitles your state association to five delegates for 1929-30-31.

"A member of the House of Delegates must have been a member of the American Medical Association and a fellow of the scientific assembly for at least two years next preceding the session of the House of Delegates at which he is to serve."

"Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one-half as near as may be, shall be elected each year. Delegates and alternates elected by the sections, or delegates appointed from the United States army, United States navy and United States Public Health Service shall hold office for two years." Chap. I, Sections 1 and 2, By-Laws.

SCIENTIFIC ASSEMBLY

The general meeting, which constitutes the opening exercises of the scientific assembly of the associaton, will be held Tuesday evening, July 9, 1929, at 8:30. The sections will meet on Wednesday, Thursday and Friday, July 10, 11 and 12, 1929.

Convening at 9 a. m. the sections on Practice of Medicine; Obstetrics, Gynecology and Abdominal Surgery; Laryngology, Otology and Rhinology; Pathology and Physiology; Orthopedic Surgery; Urology; Radiology; Preventive and Industrial Medicine and Public Health.

Convening at 2 p. m. the sections on Surgery, General and Abdominal; Ophthalmology; Diseases of Children; Pharmacology and Therapeutics; Nervous and Mental Diseases; Dermatology and Syphilology; Gastro-Enterology and Proctology.

LEGISLATIVE BILLS

We append below a brief digest of bills relating to medicine that were introduced in the session of the legislature that has just adjourned. The Journals senate and house was checked for each day of the session. If a bill whose title indicated a medical relationship was noted a copy of the bill was secured and its provisions studied. In the March Journal we published a similar listing of bills that were introduced in the first weeks of the session.

These bills indicate the degree of legislative invasion of the practice of medicine and legislators' quest to regulate and direct medical service. In this there is much for thought. It is quite apparent that our interests are becoming more and more involved by inhibitory legislation. It is equally apparent that we are not, as doctors, self sufficient. Neither do we have the full confidence of the people. The tendencies manifested clearly indicate that the protection of our legislative interests is a major and serious problem. Just what our interests and the position that we must assume will be of first importance in the deliberations of the House of Delegates at Jackson meeting.

In re: House Bill No. 78.

This bill was introduced by Mr. Boyle January 30, 1929, and is a bill to provide for the detention of insane persons and for examination in certain cases.

This bill was referred to the Committee on State Affairs and was reported out by them on February 15, 1929, and referred to the Committee on Judiciary.

In re: House Bill No. 142.

This is a bill to provide for County Infirmaries by two or more counties.

This bill was introduced on February 13, 1929, by Mr. Milliman. The bill was referred to the Committee on Public Health.

In re: House Bill No. 135.

This bill was introduced February 11, 1929, by Mr. Culver. It was referred to the Committee on Public Health, but has not yet been reported out by that committee.

This bill proposes to increase the jurisdiction of the Probate Court. It provides for the commitment of certain persons to the Wayne County hospital. It provides for their detention, treatment and release therefrom and it authorizes contracts between the County of Wayne and other counties for the care of persons committed to the Wayne County hospital and such other counties.

Section I of the bill provides that whenever any person shall have been charged with a criminal offense in any court of competent jurisdiction in this state, and it appears that such person is; (1) habitually addicted to the use of habit-forming drugs, (2) exhibits, obsessions, phobias, hallucinations, complexes or other mental states not amounting to actual insanity which renders him incompetent to properly care for himself, (3) is

suffering from an abnormal mental state induced or caused by toxic condition following physical disease, (4) is in danger because of abnormal condition of becoming morally depraved, (5) declares himself progressing toward mental incapacity from any cause, and (6) after examination by three competent physicians, appointed by such court, is declared by such physicians to be progressing toward serious mental incapacity and in definite need of preventive or prophylactic psychopathic treatment, the court may in lieu of imposing other sentence for such offense, direct the prosecuting attorney and others, to file a petition in the Probate Court setting forth the classification that such person is within as above set forth and pray that such person be committed by order of the Probate Court to the Wayne County hospital.

Section II gives authority to the Probate Court to receive here and try such issues.

Section III provides that such a petition may be filed by a father or mother and others, of any person as set forth in this Act.

Section IV provides that the Probate Court shall fix a day for hearing and appoint not less than two reputable physicians to examine the person sought to be committed and certify to the Court before such hearing, the result of their examination.

Section IV also provides the method of service of notice of said hearing, and provides that such person shall have the right to be present at such hearing unless it shall be made to appear to the Court by a certificate of two reputable physicians that his condition is such as to render his removal for that purpose, or his appearing at such hearing improper and unsafe.

It also provides that if such person shall, upon such hearing, be found and adjudged to be a person of the class mentioned in Section I, the Court shall immediately issue an order for his admission to the Wayne County hospital for treatment and such order shall remain in full force and effect until such patient shall be discharged from such hospital, but in no event, for a longer period than two years.

Section V provides that the Medical Superintendent is authorized to release any person so committed to his custody at any time during the period of his commitment, to any relative of such person, Superintendent of the Poor, or regularly incorporated social agency upon such condition as such Medical Superintendent may prescribe, and such Medical Superintendent shall notify the Judge of Probate in writing of the release or final discharge of any person committed to such hospital under this Act.

Section VI provides in case of persons committed from other counties than Wayne County, the respective counties from which such persons are committed, shall be liable to the County of Wayne for the care and support of such persons while in the Wayne County hospital, in an amount to be determined by a contract between the Board of Supervisors of the County of Wayne and the respective Board of Supervisors of other counties in the state, said amount to be computed according to the approximate cost necessary for the care of such person committed.

Section VII provides for a right to appeal.

Section VIII provides that the provisions of law governing the jurisdiction of Probate Courts in hearing petitions for the admission of insane persons to the several hospitals in this state shall apply to all hearings under this Act.

Section IX is the usual constitutionality or invalidity provision.

It seems to us that this bill is rather far-reaching in its classification of persons who shall come under this Act, but we do not know as you are particularly concerned with this phase of the legislation. In every case where an examination is provided for, it provides that the examination shall be made by competent or reputable physicians or surgeons.

In re: House Bill No. 158.

This bill was introduced February 14, 1929, by Mr. Culver. This bill was not printed until it was placed on general orders in the House, which was March 28, 1929.

This bill amends Section III of Act No. 314 of the Public Acts of 1927, being an Act to protect the people from tuberculosis and to provide for the care, treatment and hospitalization of persons afflicted therewith and to prescribe penalties for violation of this Act.

This section in particular is amended by the insertion of the words "Board of Auditors" and by the addition of the following:

"It shall be the duty of the Health Officer of each city, village, township, county or district to determine the financial ability of such person to pay for the treatment received excepting in counties having a Board of County Auditors, in which cases said board is authorized to make inquiry as to the financial standing of all persons receiving such care, treatment or hospitalization; provided, that said Board of Auditors may, at its discretion, enter into agreements with the persons benefited under this Act for reimbursement for the expenses incurred by said county in furnishing such care, treatment or hospitalization."

In re: House Bill No. 159.

This bill was introduced February 14, 1929, by Mr. Culver. It is a bill to amend Section XIII of Act No. 177 of the Public Acts of 1925, being an Act to protect the public health and to provide for the construction of hospitals, etc.

In re: House Bill No. 159.

In regard to the above entitled bill which amends Section 13 of the 1925 Act to provide for the construction, maintenance and operation of hospitals and sanitoriums for the treatment of tuberculosis by adding the following provision, viz.:

"That it shall be competent for any city in this state having a population of more than 100,000 to establish, maintain and operate a hospital for the treatment of tuberculosis, and in such city, is authorized and empowered to raise by taxation the necessary funds for the purpose of constructing such hospital or sanitorium. The Board of Health of any such city shall be vested with the management of such hospital and the State Board of Health shall inspect such hospital and if it conforms to the provisions of this Act, the State Board of Health shall approve the same, whereupon the Board of Supervisors of the county may contract with the city owned hospitals for the care, treatment and hospitalization of county patients afflicted with tuberculosis and said county shall be entitled to receive for all such cases reimbursement from the state for such patients as provided for county owned institutions under this Act and in the same manner."

In re: Senate Bill No. 169.

This is a bill introduced by Senator Upjohn

which gives the State Commissioner of Health power to inspect private tuberculosis hospitals and authorizes the payment of \$1.00 a day by the County Treasurer of the county where the private hospital is located, provided the private hospital complies with the rules and regulations of the Commissioner of Health as to the equipment and type of hospital maintained.

The reason why this bill was introduced was because a man by the name of Dr. Shepard residing in Dr. Upjohn's district, has a hospital that he would like to get this aid for. The writer took the bill up with Dr. Kiefer some time ago, and the doctor stated that he knew the reason why the bill was introduced and had no objection to it.

This bill has passed both houses and was on April 2, 1919, enrolled, printed and presented to the governor.

In re: Senate Bill No. 170.

This bill was introduced by Senator Person on February 6, 1929, and provides that the State Administrative Board may, in its discretion, appropriate any or all of 914.61 acres owned by the state and inventoried to the Boys' Vocational School for the purpose of a site for a state hospital.

This bill was referred to the Committee on State Hospitals.

In re: House Bill No. 180.

This bill was introduced February 11, 1929, by Senator Howell, and referred to the Committee on Transportation. This committee reported the bill out with amendments, which amendments were concurred in and the matter was referred to the Committee of the Whole and placed on general orders February 28, 1929. On March 11, 1929, the bill was reported out by the Committee of the Whole with amendments and ordered reprinted. On March 18, 1929, the bill passed the Senate and was transmitted to the House on the same day and referred to the Committee on Transportation.

This is a bill to provide for the examination and licensing of operators and chauffeurs of motor vehicles, etc. It is commonly referred to as the "Hoover Bill" or the "Uniform Operators' and Chauffeurs' Licence Act."

Section C of the bill provides that the Commissioner of Public Safety acting directly or through its duly authorized officers, agents and employees, shall not recommend and the department shall not issue an operator's or chauffeur's license to any person who is an habitual drunkard or who is addicted to the use of narcotic drugs. The Act does not provide a method or outline the means by which the commissioner shall arrive at this conclusion.

Section 5 E provides that the department shall not issue an operator's or chauffeur's license to any person when in the opinion of the commissioner, such person is afflicted with or suffering from such physical or mental disability or disease as will serve to prevent such person from exercising reasonable and ordinary control over a motor vehicle while operating the same upon the highways. This provision is also subject to the objection that there is no means provided or stated as to how the commissioner shall arrive at the conclusion that a person is "afflicted with or suffering from physical or mental disability or disease."

Section 10 A provides that the commission, upon receipt of the proper application and fee here-

inbefore provided, shall examine or cause to be examined every applicant for an operator's or chauffeur's license before recommending any such license except that the commissioner may in his discretion waive the examination of any person applying for the renewal of an operator's or chauffeur's license issued under this act or any prior act who at the time of such application, has a valid unrevoked license issued under this act, or any prior act of this state. It also provides that the commissioner shall establish rules and regulations for the examination of the applicant as to his physical and mental qualifications to operate a motor vehicle in such manner as not to jeopardize the safety of persons or property and ascertain whether any facts exist which would bar the issuing of a license.

Section 12 C provides that the Commissioner upon determining after an examination that an applicant is mentally and physically qualified to receive a license, may issue to such person a temporary driver's permit entitling such person, while having such permit in his immediate possession, to drive a motor vehicle upon the highways for a period not exceeding 20 days before issuing to such person an operator's or a chauffeur's license.

Section 18 A provides that whenever the department has reason to believe that any licensed operator or chauffeur is incompetent to drive a motor vehicle or is afflicted with mental or physical infirmities or disabilities, rendering it unsafe for such person to drive a motor vehicle, the department after notice as hereinafter provided to such person, may conduct an investigation and require an examination of such person in the county wherein such person may reside, and upon good cause appearing thereon may thereupon suspend or revoke the license of such person.

This bill does not provide the method by which the commissioner shall arrive at the physical or mental disabilities or infirmities of the applicant for the license. It does not state whether this is to be a lay examination or whether it is to be by a reputedly licensed physician or surgeon or whether the examination is to be made by some public health official.

Not passed.

In re: House Bill No. 192.

This bill was introduced February 21, 1929, by Mr. Ate Dykstra. This is a bill to regulate the occupation of beauty culture, to provide for a board for the examination and licensing of persons who practice that trade.

This bill was referred to the Committee on State Affairs and has not been reported out by them.

In re: House Bill No. 194.

This bill is a new one and it provides that "in every action for malpractice brought against any physician, surgeon or osteopath, if plaintiff shall establish that defendant was employed and treated or administered to plaintiff in his professional capacity, and that plaintiff sustained damages as a result thereof, shall be deemed prima facie evidence of defendant's negligence and that he did not exercise ordinary care, knowledge and skill in the administration of such treatment."

In our opinion, this bill is very dangerous due to the fact that it substitutes a new rule of evidence and if this bill should be passed, we feel that it would be considered constitutional by the Supreme Court, but also think that it goes so far that in its particular application, it would probably be a nullity.

This bill has passed the House and died in the Senate.

In re: Senate Bill No. 194.

This bill was introduced on February 13, 1929, by Senator Gansser and amends the present law to provide for the construction, maintenance and operation of hospitals and sanitoriums for the treatment of tuberculosis by providing that the American Legion Hospital at Camp Custer, Battle Creek, Michigan, shall be included and considered upon the same basis as a County sanitorium for all of the purposes of this act.

In re: House Bill No. 197.

This bill was introduced February 21, 1929, by Mr. Kistler. This bill was referred to the Committee on Public Health and was not printed until it was recently placed on general orders in the House. It is a bill to amend Section 12 of Act 343 of the Public Acts of 1925 being an Act to provide for the registration of births and deaths in this state; the appointment of the registrars thereof; requiring physicians and others to make reports, etc.

This amendment in particular provides that all persons whose births have not been registered owing to the refusal or neglect of those responsible for registering the same, may have their birth registered or any person interested in such birth or births, may at any time after the expiration of five days, make application to the Probate Judge of the proper county presenting to him an application in writing in like form and containing the same information with the exception of the certificate of the attending physician as is now commonly set forth in the regularly used birth certificate and in addition thereto, the reasons, if any, why said birth was not registered within the five days provided by this Act. Said application shall be signed by the person making the same and shall state whether the applicant is a friend, relative or the person whose birth is to be registered. Said application shall be accompanied by the affidavits of two competent persons who know of the facts of the birth and shall set forth the name, place of birth and date of birth of the person whose birth is to be registered and whether the affiant is a friend, relative or otherwise, together with as complete an address as possible of the affiant. If said Probate Judge is satisfied that the application and the affidavits confirm to this Act, he shall countersign said application, and the same, together with the affidavits attached thereto, may be filed with the registrar of the proper district as herinbefore provided for the original registration of births and the same shall be a record of said birth with like force and effect as if a certificate of said birth had been originally registered as hereinbefore provided.

In re: House Bill No. 201.

This bill was introduced February 22, 1929 by Mr. Fisher. It is a bill to amend Act No. 151 of the Public Acts of 1923, which is a bill to revise and consolidate the laws representing hospitals for the insane and feeble-minded and to provide for licensing of privately owned hospitals.

This bill was referred to the Committee on Public Health.

In re: House Bill No. 203.

Section 1 provides that it is hereby declared to be the policy of the state to prevent the procreation and increase in number of feeble-minded, insane and epileptic persons, idiots, imbeciles,

mental degenerates and sexual perverts likely to become a menace to society or wards of the state.

Section 4 provides that whenever the medical superintendent of the various insane hospitals, enumerating them, or any other hospital, training school, farm colony, private or public institution maintained and supported in whole or in part by the state of Michigan, shall be of the opinion that any inmate under the custodial care of such institution is a mentally defective person, who would be likely to procreate children unless confined or rendered incapable of procreation; that such children would have a tendency to mental defectiveness, and there is no probability that the condition of said defective person will improve and that it is for the best interests of such person and of society that such mentally defective person should be sexually sterilized, it shall be the duty of such medical superintendent or principal officer, to bring to the attention of the governing board of such institution and the State Welfare Commission, the facts, records and history, traits and mental and physical condition of such person so far as the same can be ascertained.

It shall be the duty of the governing board or body of such institution and the State Welfare Commission to cause an investigation to be made to determine whether such mentally defective person would be likely, if allowed to mingle in society, to procreate children, having an inherited tendency to feeble-mindedness, insanity, idiocy, imbecility, epilepsy or sexual degeneracy, and who would be likely to become a social menace or ward of the state, and whether there is any probability that the condition of such person would improve to such an extent as to avoid such consequences. It shall be the duty of such governing board and the State Welfare Commission, to keep a record with reference to each such persons embodying its findings and conclusions in said respects and to file or cause to be filed a petition in the Probate Court of the county in which such mentally defective person was a resident, at the time of commitment or in the Probate Court of the county in which such institution may be situated for the purpose of carrying out the provisions of this Act and to procure an order directing the sterilization of such defective persons.

Section 5 provides that the father, mother, etc., or medical superintendent may petition the Probate Court of any county in which a mentally defective person resides or where such institution is located directing such treatment or operation of vasectomy, salpingectomy or other operation or treatment as may be least dangerous to life, to effectively render said defective person incapable of procreation.

It also provides that notice of such hearing shall be personally served at least ten days before the date of hearing upon such persons or next to kin and certain other methods of service.

Section 6 provides that the Court shall appoint two reputable physicians who shall make an investigation of the mental and physical condition and personal and family history of such defective and report the same to the Court with the opinion of said physicians as to whether said person is a defective person within the meaning and intent of this Act who should be rendered incapable of procreation. These certificates shall be filed with said Court before an order shall be made for such operations or treatment. The Court shall at such hearing take testimony in writing as to the mental and physical condition of such defective person and the history of his case, and shall, if no jury is required, determine whether he is a

mentally defective person subject to be rendered incapable of procreation in order to prevent the production of children who may be mentally defective or a menace to society.

Section 7 provides for the summoning of a jury if demanded.

Section 8 provides that whenever, at such a hearing, it shall be found that such person is a mentally defective person, who would be likely to procreate children unless he be closely confined or rendered incapable of procreation, that such children would have a tendency to mental defectiveness and that there is no probability that the condition of said defective person would improve and the Court shall find that such children might be a menace to society or become wards of the state, the Court shall make an order requiring and specifying that such defective person shall be treated or operated upon by certain specified methods best suited to the condition of such person and most likely to produce the beneficial results intended by this Act.

It also provides that the Court may in said order direct that such defective person be admitted at the University Hospital at Ann Arbor for such operation or treatment whenever the mental and physical condition of such person is such that he may be admitted and cared for in said hospital, or may direct that such operation or treatment be performed by a reputable surgeon whose duty it shall be to perform such operation or treatment in accordance with said order. The expense of such operation or treatment, together with physician's fees and all other expenses incurred in connection with such proceeding, shall be a proper charge against the state of Michigan.

Section 12 repeals Act No. 285 of the Public Acts of 1923 entitled "An Act to Authorize the Sterilization of Mentally Defective Persons" and amendments thereto.

This bill provides for examinations by physicians and surgeons and makes their fees a debt against the state of Michigan. The bill also provides that the Probate Court may provide for the operation to be performed at the University Hospital at Ann Arbor (if the person can be admitted to that institution) or to order the operation to be performed by a reputable surgeon.

In re: House Bill No. 203.

This bill was introduced February 22, 1929, by Mr. Cuthbertson and is a bill to prevent procreation of feeble-minded, insane, epileptic, moral degenerates, sexual perverts and to provide for sterilization.

This bill was referred to the Committee on Public Health and was reported out by them and referred to the Committee of the Whole and placed on general orders March 28, 1929.

After the consideration of the bill by the Committee of the Whole, it was placed upon the order of third reading of bills, March 29, 1929. When the bill came up on the third reading, it was ordered re-referred to the Committee on Public Health April 1, 1929.

In re: Senate Bill No. 217.

This bill was introduced February 20, 1929, by Senator Heidkamp and amends the present law in regard to the conducting, establishing, maintaining or carrying on without a license of any maternity or lying-in hospital for the receiving, caring for, or treating of females during pregnancy, etc., and provides that all the duties, rights and powers of the State Board of Corrections and Charities having been transferred to

the State Welfare Commission, the licenses provided for in the law, shall be issued by the State Welfare Commission.

In re: House Bill No. 273.

This bill was introduced March 8, 1929, by Mr. Culver. It is a bill to amend Act No. 267 of the Public Acts of 1915, being an Act to provide free hospital service and medical and surgical treatment for persons afflicted with a malady or deformity which can be benefitted by hospital treatment who are unable to pay for such care and treatment and for pregnant women unable to pay for such care and treatment and for children of such pregnant women born during the period of hospital care and providing for the expense thereof, and prescribing the jurisdiction of the Probate Court in said cases.

This bill was referred to the Committee on Public Health.

In re: House Bill No. 273.

In regard to this bill which is a bill introduced to amend Act No. 267 of the Public Acts of 1915 which provides free hospital service and medical and surgical treatment for persons afflicted with a malady or deformity which can be benefitted by hospital treatment, etc.

The amendments provide that in counties having a Board of County Auditors, an investigation as to the financial condition of persons seeking medical aid under this Act, shall be made by the Board of County Auditors and that said board may enter into agreement with parties benefitted under this Act for reimbursement of expenses.

It also provides that instead of sending all patients to the University Hospital at Ann Arbor, the Judge of Probate may, in his discretion, order any person coming under this Act, treated in any city or county hospital when such institutions are maintained and operated as general hospitals for the care and treatment of the sick and afflicted. The balance of the amendments provide the machinery necessary to take care of these changes in the Act.

In re: Senate Bill No. 288.

This bill was introduced March 13, 1929, by Senator Jankowski and is a bill to create a commission to investigate the use of narcotics and habit-forming drugs and to prescribe the powers and duties of the Commission.

This bill was referred to the Committee on Public Health.

In re: Senate Bill No. 288.

This is a new bill to create a Commission to investigate the traffic in and use of narcotic and habit-forming drugs, weeds, roots, herbs and compounds; to prescribe the powers and duties of the Commission and to make in appropriation therefor.

Section 1 provides for the creation of a Commission to be known as the Michigan Narcotic Commission to be composed of nine members, two of whom shall be members of the Senate appointed by the Lieutenant Governor, two of whom shall be members of the House of Representatives appointed by the Speaker, one of whom shall be a Commissioner or a member of the Detroit Public Safety Department appointed by the Governor, one of whom shall be a Commissioner or a member of the Detroit Police Department appointed by the Governor, and three of whom shall be citizens appointed by the Governor. The members shall serve without pay but their necessary expenses

while engaged in the work of the Commission shall be paid. It provides for the employment of a secretary and such other assistants as the members may deem necessary but in no case shall the amount of salaries and expenses exceed the amount of the appropriation hereinbefore provided.

Section 2 provides that it shall be the duty of the Commission to investigate the use and sale of narcotics, etc., within the state of Michigan, with a view to determining so far as possible, the extent of such traffic, the extent to which addiction to the use of such narcotic and habit-forming drugs, etc., has spread among the residents of this state, and the remedies which may be applied to stamp out such traffic.

Section 3 provides that the Commission shall have authority to subpoena witnesses and records, to administer oaths and to require witnesses to testify; provided however, that no testimony adduced before such Commission, shall be admissible in any criminal proceeding. Failure on the part of any person subpoenaed and required to testify or to produce papers or records, shall be a misdemeanor and shall be punished by a fine of not more than \$100 or by imprisonment in the county jail for not more than 90 days or by both such fine and imprisonment.

Section 4 provides that the Commission shall report its findings together with its recommendations of any measures that it may deem expedient to prevent or reduce the traffic in or use of narcotics or habit-forming drugs, etc., within the state of Michigan, to the Governor and Legislature, not later than January 15, 1931.

Section 5 provides for an appropriation out of the general fund for the fiscal year ending June 30, 1930 in the sum of \$7,500 and for the fiscal year ending June 30, 1931, in the sum of \$7,500.

Section 6 provides that the Auditor General shall incorporate in the state tax for the years 1929 and 1930, sufficient amounts to reimburse the general fund for the appropriations hereby made.

In re: Senate Bill No. 309.

This bill amends Section 16 of Act No. 254 of the Public Acts of 1905 and does away with the present Section 16 and inserts the following as Section 16:

"Any person designated in Section 15 of this Act as a patient of the first class, shall be admitted to State Sanitoriums only upon a certificate by the Superintendent of the Poor of the county in which said person is a resident, approved by the Judge of Probate of said county. Said certificate shall show that such person is a resident of said county, is indigent and unable to pay the necessary expenses for residence and treatment at said Sanitorium. The State Tuberculosis Sanitorium Commission is hereby empowered to direct and fix the rate, etc., subject to the approval of the State Admission Board. The state shall share in the expense of the care, treatment and maintenance of said indigent patient to the extent of \$1.00 per day for each day of such care, treatment and maintenance. All other expenses for the care, etc., shall be the sole obligation of the county of their residence and shall be a proper charge against such county at the rate fixed therefor. It shall be the duty of the County Treasurer of such county, to reimburse the state of Michigan therefor, by paying such amount into the State Treasury forthwith, upon receipt of statements from the Auditor General showing the amount thereof."

The balance of the Section provides for the distribution of the money by the Auditor General.

In re: Senate Bill No. 310.

This bill contains entirely new subject matter and is a bill to create a Tuberculosis Sanitorium Commission.

Section 1 provides that the State Health Commissioner shall be ex-officio a member of such Commission and shall act as chairman thereof. Six other members shall be appointed by the Governor. Two of such members shall be duly licensed and practicing physicians of this state who have had at least six years' experience in the practice of medicine and surgery and in the treatment of tuberculosis. Two members shall be appointed upon recommendation of the Board of Regents of the University of Michigan. Two other members shall be appointed among resident citizens of this state. The balance of the Section provides for a rotating term of office of three years.

Section 2 provides that the Commission shall be a body corporate with all powers necessary to carry this Act into effect and with power to receive gifts, grants, devises, and bequests to the state of Michigan for the benefit of any of the State Tuberculosis Sanitoria.

Section 3 provides that the Commission shall form its own organization except as to chairman and shall elect a secretary and treasurer and make and adopt its own rules of procedure. Members shall receive no compensation for their services except that actual and necessary traveling expenses may be authorized by the Commission and paid as the expenses of other state officers are audited and paid.

Section 4 provides that all of the powers and duties of the Board of Trustees of the State Sanitorium at Howell are hereby transferred to the Tuberculosis Sanitorium Commission. The Board of Trustees of the State Tuberculosis Sanitorium at Howell shall be abolished from and after 12 o'clock noon of the first day of July, 1929, at which time, the Tuberculosis Sanitorium Commission shall assume and succeed to all of the rights, powers and duties of said Board of Trustees.

Section 5 provides that the Commission shall have supervision and control over any other State Tuberculosis Sanitorium hereafter to be established. It shall have the same powers thereover as given by Act 254 of the Public Acts of 1905 as amended for the supervision and control of the State Sanitorium at Howell. All of the provisions of said Act as amended shall govern the admission, control and expense of patients in all state tuberculosis sanitoria. The Commission shall fix the rate and expenses for treatment, care and maintenance of all patients subject to the approval of the State Administrative Board. The state shall share in the expense and the care, etc., of indigent patients to the extent of \$1.00 per day each for each day of such care, treatment and maintenance. All other expenses for the care, etc., shall be the sole obligation of the county of their residence. It shall be a proper charge against such county at the rate fixed therefor. The Commission may transfer such patients from any tuberculosis sanitorium to the University Hospital at Ann Arbor and from such University Hospital to any state tuberculosis sanitorium or to their homes and the county from which such patient was admitted, shall pay the rate established for either institution, together with the cost of such moving expenses.

Section 6 provides that all state tuberculosis sanatoria shall be regulated and subject to the rules and regulations governing other state hospitals so far as applicable when not inconsistent with the provisions hereof. The Commission shall have authority to formulate and enforce any additional rules and regulations that it may deem necessary to adopt.

Section 7 provides that whenever facilities are provided at the University Hospital at Ann Arbor for the care of tuberculous patients, the services of the medical faculty at the University Hospital shall be available for consultation, treatment and advice in all cases referred from other state tuberculosis sanatoria.

Section 8 provides that neither the University of Michigan nor any member of the faculty thereof nor the University Hospital nor any officer thereof, nor the Regents of the University of Michigan, shall be allowed or paid any fees or charges for consultation for professional services rendered to any public tuberculosis patient in the University Hospital at Ann Arbor or any other state tuberculosis sanatorium or, to or for the Commission in connection therewith except the rate which shall be established for the care, etc., of the patient. The tuberculous patient in the University Hospital shall be available for clinical purposes and observation for the students and faculty of the University of Michigan under such reasonable rules and regulations as the Board of Regents and medical faculty may have established.

Section 9 provides that this Act is deemed to be necessary for the peace, health and safety of the state and shall be given immediate effect.

In re: Senate Bill No. 327.

This bill was introduced March 28, 1929, by Senator Branson. It is a bill to amend the present law in regard to the policy with reference to crippled children, their examination, diagnosis, care and education and the conduct of hospital schools.

This bill was referred to the Committee on Judiciary.

In re: Senate Bill No. 327.

This bill amends the present law in regard to the policy with reference to cripple children, their examination, care nad education and the conduct of hospital schools.

It provides for the payment of reasonable per diem as the Michigan Crippled Children Commission may have agreed upon as compensation to the designated necessary orthopedic surgeon. It also provides that patients may be sent by the Probate Judge to other hospitals than the University Hospital at Ann Arbor. It also provides that the rates in the hospitals must be approved by the Michigan Crippled Children Commission and the State Administrative Board. It also provides that the University Hospital, or other hospital, shall promptly report to the Superintendent of Michigan Crippled Children Commission on blanks to be provided by the Commission for that purpose, the admission to and discharge from such hospital. A copy of such report shall be sent to the Judge of Probate of the county from which such patient was sent, such report to contain complete information as to the nature of the disease, nature and date of operation if any, and recommendation for after care and whether or not such patient is to be returned to such hospital later for further observation and treatment.

It also provides that during convalescent peri-

ods from such orthopedic hospitals for the purpose of convalescence, the Commission may designate local hospitals and surgeons for the care of such patients and fix their compensation therefor and the Judge of Probate of such county shall issue an order to the Auditor General for the payment of such sums so contracted for by the Commission. This bill has passed the Senate and has been transferred to the House and referred to the Committee on Public Health.

In re: Senate Bill No. 365.

This bill was introduced April 10, 1929, by Senator Gansser. It was referred to the Committee on Counties and Townships who reported the bill out and requested that it be referred to Committee on Public Health April 18, 1929.

On April 19, 1929, the bill was reported out by the Committee on Public Health and referred to the Committee of the Whole. The bill provides for a County Poor Physician and fixes his compensation, describes his duties and regulates the liability of the county for the care of indigent persons afflicted with diseases. Section 1 provides that on a petition of not less than 10 per cent of the resident free holders of the county, the Board of Supervisors may appoint a County Poor Physician who shall hold office for a period of one year or until a successor is appointed and qualified.

Said physician shall be a graduate of a Class "A" School of Medicine; admitted to the practice of medicine within the state of Michigan in good standing and in active practice not less than five years prior to his appointment. Section 2 provides that the said County Poor Physician shall take and subscribe the constitutional oath of office and execute and deliver a penal bond in the sum of \$1,000 with sufficient sureties. Said County Poor Physician shall receive a salary of \$1,500 per annum payable monthly out of the general funds of the county and traveling expenses together with stationery and postage.

Section 3 provides that said County Poor Physician shall have general supervision over all cases of contagious diseases where the person or persons so afflicted shall become a county charge, as hereinafter set forth, to-wit; all cases of smallpox, diphtheria, scarlet fever, typhoid fever and measles, where the person so afflicted shall be quarantined by the attending physician or any local board of health but before the county shall become primarily liable for the care and maintenance of any such person or persons, they shall, by themselves, or other persons, legally liable for their support, make and subscribe an affidavit setting forth that they are not the owners of property in excess of the cash value of \$1,000 and that they have no other means of support than that of their daily labor. All such affidavits shall be immediately forwarded to the office of the County Poor Physician.

Section 4 provides that the County Poor Physician shall immediately proceed to supervise the care and maintenance of such poor persons by contracting with any reputable physician for medical attendance which shall include medicines for the patient in reasonable amounts, and shall provide a nurse if deemed necessary and advise the County Poor Commission at once, all clothing, provisions and fuel needed for the proper care of any such patient and that upon receipt of such notice, said County Poor Physician shall furnish such articles. Said County Poor Physician shall also care for and treat any poor person needing medical care and treatment and such poor person

or persons designated or referred to said County Poor Physician.

The balance of the Sections provide the machinery necessary to carry out the provisions of the Act.

In re: Senate Bill No. 372.

This bill was introduced April 11, 1929, by Senator Harding. It is a bill to prohibit the practice of medicine or advertising the practice of medicine under a false or assumed name.

This bill was referred to the Committee on Public Health April 11, 1929 and by that Committee, reported out and referred to the Committee of the Whole April 18, 1929. It was also placed on the order of third reading of bills on April 18, 1929. Passed and signed by the Governor.

In re: House Bill No. 417.

This is a bill to amend Sections 2 and of Act No. 274 of the Public Acts of 1913, being Sections 5286 and 5290 of the Compiled Laws of 1915, being an Act to provide for the medical and surgical treatment of children who are afflicted with a curable malady or deformity, etc.

This bill was introduced by Mr. Budge on April 5, 1929 and referred to the Committee on Public Health. This Committee amended the bill and reported it out on April 17, 1929, at which time, it was referred to the Committee of the Whole and placed on general orders. On April 19, 1929, the Committee of the Whole reported the bill out for third reading. On April 22, when the bill came up on third reading, it was referred to the Committee on Public Health.

This bill provides that instead of sending the children to the University Hospital at Ann Arbor for free treatment, the Judge of Probate may order that such operation be provided within the county at county expense, provided that no child shall be sent for any operation or treatment upon tonsils or adenoids unless the same presents complications of a serious or major nature, nor solely for any other minor operation or treatment.

The amendment further provides that the superintendent of said hospital shall certify to the Auditor General all cases of any operation or treatment upon tonsils or adenoids which do not present complications of a serious or major nature, also of operations or treatment of a minor nature, whereupon it shall be the duty of the Auditor General after crediting the expense thereof to the University of Michigan, to charge the same to the county from which such patient was admitted. It further provides that all such expense for transportation and care of patients shall be a charge against the county and be paid by the Treasurer out of the general fund upon order or voucher of the Probate Judge.

In re: House Bill No. 438.

This bill was introduced by Mr. John Dykstra, April 9, 1929, and is a bill to provide for treatment of patients in hospitals by practitioners of any School of Healing and to prescribe penalties for the violation of this Act.

This bill was referred to the Committee on Public Health and was reported out by them to the Committee of the Whole and placed on general orders April 18, 1929. It was reported out by the Committee of the Whole and placed on the order of third reading of bills on April 22, 1929.

The bill provides that any citizen, resident or non-resident, confined in any hospital or institution maintained wholly or in part by public funds

within the State of Michigan, shall have the right to select a physician or practitioner of any School of Healing of his or her choice and the Board of Managers of any hospital or institution shall be required to provide a practitioner other than medical for such patients as desire him.

It also provides for action in case the patient is a minor and provides a penalty of not less than \$100 nor more than \$500 or by imprisonment not exceeding six months or by both such fine and imprisonment for violation of the Act. Died in Committee of Senate.

HOW THEY VOTED

The following is the vote on the osteopath bill in the house. You will be interested to perceive the position taken by your representative and his response to your requests.

YEAS

Anderson, L. E., Northport	Harnly, A. H., Saginaw
Armstrong, J. C., Detroit	Hartman, G. T., Houghton
Bailey, J. W., Grand Rapids	Holbeck, F. C., Long Lake
Barnard, Harry E., Jackson	Hull, Oscar C., Detroit
Bartlett, C. E., Detroit	Jackson, W. F., Big Rapids
Bielawski, A. M., Detroit	Jahnke, W. F., Saginaw
Birk, W. S., Baraga	Johnson, Milo A., Greenville
Birkholm, C. D., Eau Claire	Kistler, C. E., Ludington
Bradley, M. R., Hermansville	Lawson, J. E., Royal Oak
Brady, W. B., Detroit	Lewis, C. F., Pentwater
Braun, G. A., Elkton	Look, Dexter G., Lowell
Brown, V. J., Mason	MacKinnon, A. C., Bay City
Budge, L. J., Beaverton	MacRae, R. A., Detroit
Callaghan, Miles, Reed City	McBride, James N., Burton
Callahan, John H., Detroit	McEachron, F. F., Hudsonville
Campbell, W. B., Detroit	Miller, P. J., Walled Lake
Calvert, Frank J., Detroit	Morrison, E. C., Columbiaville
Cheaney, Chas. W., Chesaning	Netting, C. J., Detroit
Clement, John R., Albion	Nichols, E. T., Detroit
Coleman, Sheldon, Lawton	Osborn, H. A., Sault Ste Marie
Culver, C. H., Detroit	Palmer, M. R., Detroit
Dacey, Clarence J.	Phillips, F. E., Mt. Pleasant
Dacey, Vincent P., Detroit	Read, J. Herbert, Copemish
Darin, F. P., River Rouge	Reed, Charles H., Clio
DeClaire, B. H., St. Claire	Robertson, E. C., Fostoria
Shores	Sargent, E. L., Levering
DeLand, C. J., Detroit	Skeels, Edward D., Whitehall
Dykstra, Ate, Grand Rapids	Smith, E. L., Grand Rapids
Dykstra, John, Muskegon	Snow, Wilber B., Comstock
Feighner, Len W., Nashville	Teagan, Robert J., Detroit
Gardner, L. C., Stockbridge	Thomson, James F., Parma
Gillet, J. E., Rapid City	Ward, W. A., Nessen City
Goodwine, J. W., Marlette	Wardell, Robert D., Detroit
Green, Alonzo, Hillman	Watson, George C., Capac
Green, William, Hillman	Wilson, Jas. M., Kalamazoo
Haight, C. F., Lansing	Speaker, Cheboygan
Hall, Luther E., Ionia	

—Total 71

NAYS

Boyle, Jesse G., Buchanan	McColl, Jr., D. J., Port Huron
Braun, Gus A., Elkton	McNitt, H. Earl, Cadillac
Bushness, A. G., Bronson	Milliman, C. H., Iron Mountain
Coates, Claude W., Munising	Peters, Walter C., Monroe
Davidson, J. B., Eaton Rapids	Rorick, John P., Adrian
Farrand, Wm. R., Detroit	Rose, Henry L., Escanaba
Fisher, Edward F., Dearborn	Thomas, W. J., Cannonsburg
Fuller, Jesse E., Alma	VanBrocklin, J. F., Marquette
Green, Joseph, Crystal Falls	Wade, Frank, Flint
Holland, John, Bessemer	Warner, J. E., Ypsilanti
Huff, Otis, Marcellus	Williams, J. M., North Adams
MacDonald, R. B., Laurium	

—Total 23

TO WHOM AM I INDEBTED FOR THE OPPORTUNITIES MEDICAL PRACTICE?

To all those who have added to recorded medical knowledge—

They were WORKERS not DRONES.

To those who have classified this knowledge and made it possible for me to acquire it—

They were TEACHERS not KNOCKERS.

To those who have helped make medicine a profession—

Their aim was SERVICE not DOLLARS.

To those who have worked to organize our Societies and those who have kept them alive—

They were HOSTS not GUESTS.

I can never fully repay these men and the least I can do for my profession is to attend its meetings

And be a BOOSTER not a KNOCKER.

—"Modified from the Michigan Dental Association Bulletin."

LIVINGSTON COUNTY

The March meeting of the Livingston County Medical Society was held March 17th at Hotel Sumner at Fowlerville. After a very fine dinner President Huntley opened the meeting. After he had taken care of the usual business affairs of the Society Dr. Huntley then introduced Dr. George Burr of Detroit. Dr. Burr gave a very splendid stereopticon talk on "Tuberculosis Nephritis," which was enjoyed very much by all.

The April meeting of the Livingston County Medical Society was held at the new sanatorium building, April 16th. After a very splendid dinner, President Huntley opened the meeting and after the customary business, President Huntley introduced Dr. Carl Badgley, who gave a very interesting talk on "Fractures," after which the meeting adjourned.

CALHOUN COUNTY

The secretary's report, as printed in the Bulletin, Vol. XII, No. 3, was adopted as printed.

Under committee reports the Committee on Public Health handed in a resolution signed by the three members: H. A. Hoyt, S. K. Church and A. D. Sharp.

This called attention of the society to the fact that Calhoun county for the past two years has had one of the highest diphtheria death rates of any county in the state, and the committee urges some action which would bring about immunization of children, especially the pre-school child. It stressed the importance of the family doctor doing the work and not leaving it to public health agencies.

Upon motion of Dr. Kolvoord it was voted to appoint a committee to devise a plan for the carrying out of this work, and that the society go on record committing themselves to the task of diphtheria immunization. Carried.

The president appointed the following committee:

1. Theodore Kolvoord.
2. A. A. Hoyt.
3. L. S. Hodges.
4. G. B. Gesner.
5. K. B. Keeler.

The following bills were read and approved for payment:

Phoenix Printing Co.....	\$25.25
Shaw Printing Co.....	46.75
Flowers	5.00

The name of Dennis V. Smith's application for membership, having been approved by the Board of Censors, was acted upon and he was accepted to membership in the society.

There being no further business, the president called upon Dr. Stewart Pritchard to introduce the first speaker, Dr. Carl A. Hedblom. His talk was very practical and to the point, and was illustrated by a series of lantern slides. He was followed by Dr. Robert N. Keeton, associate professor of medicine at University of Illinois at Chicago.

Dr. Keeton gave a most interesting talk on the pathology of pneumonia and called attention to many features of this disease not usually noticed.

He urged the profession to come out of its doubting mood on pneumonia, calling attention to the metabolic disturbances in pneumonia, the hepatic function, renal function, etc., and taking note that diabetics with pneumonia act differently than ordinary pneumonia cases. He reported some very hopeful results in giving glucose and insulin. The discussion which followed gave evidence of the great interest in the subject presented.

Among the discussants were D. William Vis of Grand Rapids, Dr. W. C. Thompson of Kalamazoo, and Dr. Wilfred Haughey.

A vote of thanks was given to the essayists for their timely papers.

Members present, 78.

Visitors, 25.

Harry B. Knapp, Secretary.

BERRIEN COUNTY

The Berrien County Medical Society held its April meeting at the Four Flags hotel in Niles.

An excellent steak dinner was served to 50 members of the Society and their guests. Following the dinner a short business meeting was held at which the medical bills pending before the legislature as well as the cult bills were discussed.

The Secretary who had made a special trip to Lansing to visit the Berrien County representatives and senator, gave a brief report of the situation.

President Westvelt then called upon Dr. McCutcheon, of Cass County and a member of the State Society's Legislative Committee, for a discussion of these bills.

A motion was then made by Dr. Sowers and supported by Dr. Herring of Niles that this Society pass a resolution to the effect, that the Berrien County Medical Society hereby urges that the representatives from Berrien County and the senator do all in their power to have the medical bills reported out of the health committee of the house of representatives for favorable action, and that they vote "No," on any cult legislation that is reported for vote. Dr. Bartlett of St. Joseph in the discussion gave a strong talk in opposition to cult legislation and urged that all members of this Society do their utmost to influence the legislature to oppose such bills.

Announcement was made of the next meeting which will be held in Niles as a joint session with the Berrien County Bar Association. Entertainment will be provided and a prominent speaker will give a talk on medical jurisprudence.

Following the business meeting the Society listened to an excellent talk by Dr. Preston Hickey, professor of Roentgenology at Ann Arbor, on bone conditions in children.

His talk was illustrated with lantern slides and dealt first with a few rare and obscure bone diseases of deformity, illustrated with photographs and X-ray pictures, then carried on his talk with discussion of rachitis, syphilis of the bone congenital and acquired, scurvy, disease of the hip joint, the spine, etc.

The paper was interesting and the slides were excellent, and in the informal discussion that followed various bone pathologies were discussed in an informal way by Dr. Hickey and members of the society.

Accompanying Dr. Hickey on his excursion from Ann Arbor was Dr. Benton also of the X-ray laboratory at the University hospital.

The Society felt that they were indeed for-

tunate for the opportunity to listen to Dr. Hickey and were grateful to him for his long trip to this side of the state.

The Berrien County Society united with the Berrien County Bar Association for their May meeting. The two societies gathered at the Four Flags hotel in Niles on Friday evening, the 10th of May in their annual blossom banquet. Plates were laid for 60 and an excellent special dinner was served.

During the meal the members were provided with entertainment by a professional singer, an extremely good looking lady who sang rather intriguingly to a few of the "Daddys" much to the amusement of the rest of the crowd.

With the cigars and coffee, Attorney A. P. Cady of Benton Harbor, introduced the toastmaster of the evening the Hon. Victor M. Gore, a prominent member of the Berrien County Bar Association and regent at the university.

Attorney Gore after a short talk introduced the first speaker of the evening Attorney Lester Moll of Detroit, partner of H. V. Barbour of Detroit who was unable to be present.

Mr. Moll gave a very interesting talk on medical jurisprudence quoting excerpts from supreme court decisions, giving the physicians advice on how to avoid malpractice cases, and summing for the lawyers the conditions and facts necessary for a successful prosecution of such cases. His talk was addressed more to the physicians explaining the laws, and conduct of cases, their rights and obligations by expressed or implied contract with the patient.

The next speaker of the evening was then introduced and he directed his talk to the lawyers. This was Dr. F. B. Tibbals of Detroit, chairman of the medico-legal board of the Michigan State Medical Society. Dr. Tibbals told the lawyers what the physicians had to contend with in treating patients, idiosyncrasies, fractures and assault cases. His talk was eagerly listened to by both lawyers and physicians, and his presentation of the physicians position was certainly a masterpiece for such a mixed group. His plea for a better understanding between the two professions was worded in such a way, that the writer would be willing to wager, that it will be quite some time before any of the legal profession hearing this talk would be willing to accept a case against a physician.

The Berrien County Medical Society is indeed greatly indebted to Dr. Tibbals for his talk. His attitude and ability of expression shows that he is certainly the man for the position which he holds in the State Society.

This meeting was apparently a great success not only from the fellowship expressed between the two professions, but in attendance entertainment, and medico-legal knowledge gained.

W. C. Ellet, Secretary.

RADIOLOGIC DEPARTMENT IN HOSPITAL

Charles L. Martin, Dallas, Texas, contends that good radiologic service depends above everything else on the presence of a competent radiologist. An increasing number of hospitals are coming to regard their radiologic departments merely as sources of income. In many of these institutions the profits are obtained by eliminating the expense of trained supervision or by reducing it to such a minimum that the work suffers severely. This tendency seems to be most marked in hospitals controlled entirely by laymen. Naturally their

interest leans toward the financial rather than the scientific development of the institution. The highly trained radiologist undoubtedly finds his greatest field of usefulness in the hospital, but bright young men cannot be induced to prepare themselves properly for this field unless they are assured a position of dignity and an income comparable to that expected in other specialties requiring a similar amount of training. The truly ambitious man is happy only when he receives a fair share of the fruits of his labors. The surgeon who uses the operating rooms, surgical instruments and anesthetic equipment belonging to the hospital receives a fee for his work from the patient, and the hospital makes a charge for the use of the apparatus. A similar plan in radiologic departments would bring many good men into this field of work. When the radiologist is encouraged to build up a private practice in the hospital, and this applies especially to therapeutic work, he is more likely to regard his hospital connection as a field of endeavor worthy of a number of years of preliminary study. He has a future of some promise so long as he continues to apply himself and to become more proficient in his work. Hospital departments of note usually derive their fame from the activities of one man, and as his reputation spreads the whole institution inevitably profits thereby. Many hospitals in which poor radiologic work is done have a constantly changing personnel in their radiologic departments. One radiologist after another undertakes the work on a small salary with the intention better is offered. There is no incentive leading to the best type of endeavor in such a department and nothing other than the most meager routine procedures are carried out. It is probably true, as some have contended, that the radiologic departments in this country far outnumber the properly qualified radiologists. However, adequate facilities for postgraduate instruction are now provided in many of the larger teaching centers, and an ample supply of highly trained men will appear rapidly so soon as the governing boards of hospitals see fit to raise their standards and demand high grade talent in their radiologic departments.—Journal A. M. A.

GREEN ASPARAGUS CONTAINS VITAMIN A

Thick, white asparagus are rather more fashionable than their green brothers, but they are lacking in vitamin A. So if you rely on asparagus for your vitamins, you must eat the green variety, or you will not be getting enough vitamin A in your daily diet.

Experiments carried out by Prof. J. W. Crist and Prof. Marie Dye at the Michigan State College showing that green asparagus, whether freshly cooked or canned, contained enough vitamin A to promote health and growth when fed daily to white rats. These animals are the ones regularly used to test the vitamin content of foods. When they were fed the blanched or white asparagus without any other source of vitamin A in their diet, they died as rapidly as on the control diet containing no asparagus and also no vitamin A. Evidently blanched asparagus gives no stimulant to health and growth.

Professors Crist and Dye believe a relationship exists between vitamin A content and the development of chlorophyll, the green coloring matter of plants. Further experiments will be necessary to prove this theory, however.—Science Service.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

THE WRITING OF MEDICAL PAPERS—Maud H. Mellish-Wilson, Editor of the Mayo Clinic Publications. Third Edition, revised. 12 mo. of 184 pages. Cloth, \$1.50, net. W. B. Saunders Company, Philadelphia and London, 1929.

Every physician who writes medical papers will find this little work of value. It deals with the subject of usage, vocabulary, punctuation, the construction of medical papers, preparation of manuscript and numerous other topics which concern the relations between writer and publisher. We know of no work better designed to make editors good natured.

PHYSICAL THERAPEUTIC TECHNIC—Frank Butler Granger, M. D., Late Physician-in-Chief, Department of Physical Therapeutics, Boston City Hospital; Director of Physiotherapy, United States Army; Medical Counselor, United States Veterans Bureau; Member of Council on Physical Therapy, American Medical Association, Instructor of Physical Therapeutics, Harvard Medical School; Assistant Professor of Physical Therapy, Tufts Medical School. With a Foreword by William D. McFee, M. D., Boston, Mass. Octavo volume of 417 pages with 135 illustrations. Cloth, \$6.50, net. W. B. Saunders Company, Philadelphia and London, 1929.

This work, according to the author, is intended for the physician who has installed a limited equipment and not for the specialist in physical therapy. The monograph is the result of personal experience extending over a quarter of a century. We have here described not only the different kinds of physical therapy, but also their indications. The work will be found invaluable to the general practitioner or to the specialist who uses physical therapy as an adjunct to other therapeutic methods.

THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume 8, number 2. (Chicago Number—April, 1929) 243 pages with 70 illustrations. Per Clinic year (February, 1929 to December, 1929). Paper, \$12.00; cloth, \$16.00. Philadelphia and London.

The opening chapter of this volume deals with the clinics of Dr. Arthur Dean Bevan of the Presbyterian Hospital on, "Acute Abdomen," a very interesting subject and of importance to all surgeons. The author deals with the differential diagnosis of the subject.

The clinics of Dr. Carl A. Hedblom, on "The Surgical Treatment of Pulmonary Tuberculosis," an interesting subject that has been attracting attention throughout the civilized world.

This volume contains several other interesting clinics from men of note, as the clinics of Dr. A. H. Montgomery on "Pseudo Appendicitis in Children," which is of special interest to the pediatrician as well as the surgeon. The above clinics are only a random selection from the 20 equally interesting which are included in the volume.

HANDBOOK OF PATHOLOGY—W. D. Halliburton, M. D., LL. D., F. R. C. P., F. R. C. S., Emeritus Professor of Physiology, King's College, London, and R. J. S. McDowall, M. B., D. Sc., F. R. C. P. (Edin.) Dean of the Faculty of Medicine and Professor of Physiology, King's College, London. Eighteenth Edition. Contains over five hundred illustrations in the text, many of which are colored, and three colored plates. P. Blackiston's Son & Co., Philadelphia, Pa., 1929.

This edition has been completely revised and reset. The sections on the "Automatic Nervous

System," "Speech," "The Control of the Circulation," "The Carriage of Carbon Dioxide," the "Maintenance of Body Neutrality," "Vitamins," "Ductless Glands," and "Intermediate Metabolism," are for the most part new. The section on the "Nervous System" has also been practically rewritten. The history of this book is very interesting. It is a lineal descendant of Kirkes Handbook of Physiology which many of us studied during our early medical college years. The book had its birth in St. Bartholomew's Hospital, London, 81 years ago, but it has been renewing its youth ever since. By the year 1867, it had attained the sixth edition; the ninth in 1876. Professor Halliburton undertook the revision in 1896. Up to the present twenty-eighth edition 116,000 copies have been published. Owing to the fact that the book had become entirely a new one, the name Kirkes was dropped and Halliburton's Physiology became its recognized title. The work under present authorship will be found very convenient and readable. We know of no more concise and authoritative handbook on the subject than the present volume.

DISEASES OF THE THYROID GLAND—A. E. Hertzler, M. D. Second Edition. Price \$7.50. C. V. Mosby & Co., St. Louis, Mo.

It is a trite saying that of the making of many books there is no end. The text reminds us of that fact. As a text there is nothing to criticize except that it presents nothing that is new. There are plenty texts upon the book-sellers shelves hence why another, on this subject. Much space is devoted to anatomy and pathology but imparts nothing that has not already been written and discussed. Many, many times. The illustrations of certain types of cases are interesting but are no different from those encountered by any active surgeon. The author is evidently well versed and a diligent student. His effort reflects that and also time requisite in preparing his manuscript.—We regret we can say no more.

DISEASES AND DEFORMITIES OF SPINE AND THORAX—Arthur Steindler, Iowa University. Price \$12.50. C. V. Mosby Co., St. Louis, Mo.

Now here is a text of exceptional and real merit. It is a coherent, sequential development of the subject. With due importance stressed on outstanding factors that must be observed by the conscientious surgeon. Excellent illustrations clarify the text and fixes principles. It is indeed the clearest and most thorough presentation of the subject yet come to our attention. This text deserves intrinsically a place in every surgeon's and orthopedist's library.

CHRONIC ULCER OF THE LEG

Three hundred cases of chronic leg ulcer have been treated by Joseph W. Sooy, Baltimore, with a modified Unna's paste. Complete healing has occurred in 85 per cent and 15 per cent show satisfactory progress. The formula of the paste that Sooy is using is glycerin, 1,900 Gm., 1,425 cc.; gelatin, 625 Gm.; water, 1,900 cc.; zinc oxide, 250 Gm.; phenol, 1.50 per cent of total volume,

making a total of 4,675 Gm. or 10 pounds, which is sufficient for seven dressings. After its preparation it is placed in a double boiler and heated to just above body temperature, at which point it becomes fluid and has a viscosity not unlike that of ordinary paint. In this form it is applied with a paint brush directly to the skin of the leg from the base of the toes upward to just below the knee. It is to come into intimate contact with the ulcer, no preliminary dressing being necessary. A simple spiral bandage without crosses or reverses is applied over the paste, and then more paste is applied over the bandage. This is repeated until there is a total of three layers of bandage and four layers of paste. The final preparation, when cool, becomes rubbery hard and makes a pressure bandage which, because of its slight porosity, will allow escape of the discharge from the ulcer. A maximum of one hour a week is required for the application of the bandage. The length of time that a single bandage may be left in place depends on the amount of edema and the amount of exudate from the granulating surface. A light gauze bandage may be placed around the more permanent paste bandage and the patient instructed to change the former when necessary. In this manner the exudate which escapes through the pores of the paste will be satisfactorily cared for and the dressing will always present a clean and dry external surface. A paste bandage which has been cared for in this manner has been left in place for as long as twelve weeks, and when at the end of such a period the bandage has been finally removed, the ulcer has been found in excellent condition, sometimes completely healed. The bandage is suitable for use in any climate. When the temperature is very high it may be dehydrated and fixed with a solution of 85 per cent alcohol, a diluted "solution of formaldehyde U. S. P." (6 per cent), and 9 per cent ether. This solution is applied by simply sponging the bandage. This form of treatment has also been used in cases of varicose veins with considerable relief on the part of the patient and marked lessening of the edema of the ankles and lower leg. Sooy has also used it in two cases of unhealed secondary burns with very satisfactory results.—Journal A. M. A.

BLOOD PRESSURE AND RESPIRATION

For some time in a few cases of hypertensive disease of the so-called essential type Israel Rappaport, New York, has succeeded in maintaining marked reductions of blood levels by deep exercises. A number of hypertensive patients were poor breathers. They showed what Rappaport terms "the low breathing habit." The features of this phenomenon are a markedly reduced respiratory rate, pulmonary expansion far below the average, and diaphragmatic excursions of a very restricted type, without any evidence of pulmonary disease to account for it. Rappaport found that it was possible to correct this anomaly by a concentrated effort at deep breathing exercises carried out repeatedly, daily, over a period of several months. Considerable increase of spontaneous pulmonary expansion could be obtained in some cases after several weeks of conscientious breathing exercises. Reductions of blood pressure levels—an average of 30 per cent of the pathologic surplus—were thus obtained and maintained, in some of the cases for nearly two years. In some cases it was necessary to interrupt the patient's life work temporarily for the purpose of

carrying out a successful regimen. None of the patients have thus far reached the point of normal respiratory expansion or normal blood pressure level. In some of the cases hypoventilation is still a marked feature, though improvement is noticeably progressing. Some of these patients had other symptoms associated with hypertension; especially were gastro-intestinal symptoms complained of, all of which yielded promptly to the treatment.—Journal A. M. A.

THE STATUS OF RADIOLOGY IN AMERICA

Arthur U. Desjardins, Rochester, Minn., asserts that some physicians are devoting their time exclusively to diagnostic roentgenology, some to both diagnostic and therapeutic roentgenology, some to radium therapy, some to therapeutic radiology, while only a minority have become proficient in, and practice, general radiology. This state of affairs in private practice is reflected in a corresponding lack of sound organization even in the best hospitals, clinics and other institutions for the care of the sick. The inevitable consequence is that, with the exception of a small number of exceptionally qualified experts, the general level of the specialty is not high, and workers in this field may often be heard to bewail the faint respect with which their efforts are viewed by their fellow physicians in other specialties. The effect of the general attitude of the profession is shown further by the common practice of hospitals and private physicians of employing not a professional specialist in radiology but a nonprofessional technician, who often is expected only to make roentgenograms, the interpretation of which is reserved to the professional employer or to the members of the hospital staff, but whose opinion is sometimes accepted and acted on by the physicians who employ him. Another factor in this tendency has been the gradual simplification of construction and manipulation of the apparatus required to generate roentgen rays. A deplorable result of the present situation is that, with some exceptions, so few young physicians of real caliber are willing to enter the field of radiology as a life work. Several factors have conspired to produce the existing conditions: (1) the circumstances that have surrounded the development of medical radiology and the failure to organize its various phases along sound lines; (2) the lack of thorough fundamental training in radiology, and (3) the unfortunate loss of contact with clinical medicine by which radiologists are handicapped. It attempting to improve the present situation, the first and most important step must be to take measures to attract to the field of radiology young physicians of the highest caliber. It is obvious that the quality of the work rests not so much on apparatus and machines as, primarily, on the intelligence, ability and training of the physician. Adequate training in radiology must be a postgraduate function, but if it is to accomplish its purpose and exert a real influence, such instruction must be raised to a much higher place than that of the majority of postgraduate courses available today. Radiology should be brought into more intimate relations with clinical medicine and surgery, and these relations should be so adjusted that the radiologist or roentgenologist may be kept in close contact with clinical problems. His interest in such problems should be stimulated by every possible means and no longer should his knowledge of clinical medicine be allowed to atrophy by his being segregated or by his segregating himself.—Journal A. M. A.

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THE ETIOLOGICAL APPROACH TO THE STUDY OF DISEASE*

LEWELLYS F. BARKER, M. D.

BALTIMORE, MD.

In responding to the invitation to address you upon "The Etiological Approach to the Study of Disease," I find myself first faced by the necessity of defining what I mean when I refer to "etiology" and to "disease."

The word "etiology" has, as you know, been taken directly from the Greek word *aitiologia*, which means "an account of causes." What is a "cause?" We speak of "cause" and "disease" every day and with but little doubt as to what we have in mind, but how many of us have ever attempted actually and clearly to define them? To one who has given but little thought to the matter, the definitions might seem absurdly easy; they are, however, exceedingly difficult to state precisely.

Let us start with a consideration of the word "cause." In science "cause" is used to "denote an antecedent stage in a routine of perceptions" (K. Pearson); or as J. S. Mill put it, "causation is uniform antecedence." As science developed general notions or conceptions, the words "cause" and "effect" were withdrawn from the sphere of perception and utilized in the world of conceptions and ideas, "where, indeed, there is logical necessity but no true cause and effect." To quote Pearson again:—"It is only the very great prob-

ability deduced from past experience of routine that enables us to speak of the 'invariable order of the universe', or enables scientists to assert that facts which have hitherto proved obstinate will be ultimately embraced by the already well-established laws of nature. Not in the field of causation, but in that of conception do we deal with certainties." Thus, the word *know* should be used only of conceptions; the word *believe* should be used for perceptions, when we intimate that the same routine of sense impressions will recur! The necessity for this conception has been recently re-emphasized by the physicists who have worked experimentally in the realm of quantum phenomena and have been forced to the conclusion that "nature

* Read by invitation at the Henry Ford Hospital Medical Society, Detroit, Michigan, April 17th, 1929.

is intrinsically and in its elements neither understandable nor subject to law." If you will read the article by Bridgman in Harper's for March, 1929, you will see that Compton's discovery of the atomic structure of light has led to the formulation by Heisenberg of the "principle of uncertainty" since it has been found to be impossible to predict how an atom of radiation and an electron will behave after they collide. The physicists tell us that to them the discovery that nature is constituted in this way, and in particular is essentially unpredictable, has been enormously upsetting, for "the ability to predict a happening is tied up with our ideas of cause and effect." Some conclude that the universe is therefore governed by pure chance, that the world is not understandable by the intellect of man and that the very law of cause and effect ceases to have meaning!

Well, disturbing as these researches in the domain of the electron and radiation seem theoretically to be, we pragmatic American physicians are not likely to abandon too hastily the methods and conceptions that work well enough for our practical purposes and for increasing our understanding of "health" and of "disease." My discussion of etiology will, therefore, be based upon natural science conceptions of cause and effect as they were before Compton's discovery and Heisenberg's formulation of the principle of uncertainty, no matter how naive the physicists may declare me to be!

Descriptive science is made up of mental constructions that have their foundations in our sense-impressions. "Causal thinking" depends upon the construction of analogies of regular sequences of these sense-impressions. A lump of ice held in a warm hand melts. A man infected with malarial parasites and suffering from chills and fever gets rid of his symptoms and of the parasites by swallowing capsules of quinine. But mere invariable sequence or invariable coincidence is, of course, not enough to establish causal relationship. The fallacy of *post hoc ergo propter hoc* is well illustrated by the experience that "night follows day." When a patient recovers from pneumonia after taking a pint of whisky, we do not conclude that the whisky was the cause of the recovery. The fallacy of drawing causal conclusions from observation of positive *coincidences* while overlooking negative instances is very common among untrained thinkers. Some dreams come true, but most do not. Belief in telepathic communications appears

to be based upon occasional coincidences, rather than upon true causal connections. Trench fever may occur in soldiers who also have pediculosis but no one regards lice as the cause of trench fever. Furthermore, in considering causal relationships, contradictions of reality dare not be ignored by the student of science; in mythology a god may give birth to himself and in the dereistic thinking of dementia praecox the finding of a piece of thread in his soup may make a patient conclude that the soup was cooked by a Miss Threadneedle! One agitated melancholic may feel sure that his occasional masturbation in childhood has brought ruin not only to himself but also to all who are near and dear to him; another may say that temporary tube feeding has permanently ruined his digestive organs and that the doctor who ordered it should be hanged and quartered! Obviously, a certain normality of the powers of perception and the powers of thought must be presupposed in those who search for what we physicians still speak of as "causes."

In the better textbooks on logic, the methods of ascertaining "causes" are variously described and the criteria for the judgment of causal relationships are catalogued. Most of you have had college courses dealing with these matters, and it is not my intention to enter upon any discussion of them now. I do desire, however, to comment upon the proposals that have been made (wholly aside from the new vision of science that the physicists insist upon) to discard the idea of cause from scientific terminology and to replace so-called "causal thinking" by so-called "conditional thinking."

It has been urged by a number of writers that any process in nature (say, for example, a disease-process) is never dependent upon a "single condition" or "cause" but always upon a large number of "conditions." It is, they say, all wrong to select one of these conditions only and call it the "cause" of the process. These authors urge, therefore, the abandonment of causal conceptions and the adoption of so-called "conditional thinking." Though it is true that many who deal with "causes" do so rather naively and vaguely, ignoring in a given instance the factors concerned other than those that they refer to as the "cause" of the process, I am in agreement with those who refuse to adopt any form of conditional thinking that would throw causal thinking overboard as useless or pernicious in our everyday

work. As B. Fisher has well said "if there were only conditional thinking in existence, causal thinking would have to be discovered, for it is essential not only for theory but also for practice."

We know very well that the ordinary man in ordinary life designates as the *cause* of a process, or of an event, *that factor or factor-complex that is most important either for understanding its occurrence or for decision as to action*. Take, for example, a railroad accident following upon the wrong setting of a switch. A whole host of *conditions* are concerned in addition to the open switch; the speed of the train, the weight of the engine and the cars, the locality, the time, the obstructions met with, the psyche of the watchman and of the conductor are some of these conditions. Indeed, if all the conditions of an event are to be sought and catalogued, this conditional thinking would widen out into a history of the universe as a whole. Tennyson saw this when he commented upon the "flower in the crannied wall." But the ordinary man looks upon the railroad accident just referred to as due to the false setting of the switch; he calls it the *cause* of the accident and he is right, since it is *the most important condition*, the one that could and should have been avoided. Or, take another example, that cited by the conditionist Verworn himself, the death of an arteriosclerotic man from the administration of a quantity of methyl alcohol that would not have been fatal to a person whose arteries were not diseased. Verworn maintains that the causal mode of thinking is entirely helpless here. But as Fischer rightly objects, the cause of death in this case may differ according to the point of view of the investigator. From the lawyer's standpoint, the poisoning by methyl alcohol was rightly viewed as the cause of death, for though the amount given was not enough to kill a healthy man it was enough to kill the arteriosclerotic man and, from the legal standpoint, the poisoning of a sick man by a small dose is not allowed any more than the poisoning of a healthy man by a larger dose. Hence the most important factor in the death as far as the legal inquiry was concerned was the methyl alcohol poisoning; for the medical inquiry, the giving of the poison *and* the disposition (arteriosclerotic disease) were both important.

Do not these two examples make it very clear that both in ordinary life and in scientific investigation, causal thinking is

necessary since it presupposes *an evaluation from the standpoint of the inquirer of the relative importance of the conditions concerned* in the origin of any given process or event?

The cause of an event may be one factor or condition for a physicist, another for a biologist, or still another for a jurist. Even for the scientific investigator, a cause ascribed at one stage of the development of his science may be different from that ascribed at a later stage of that development, and yet in both instances with right, for everything depends upon what is most important for understanding or for action from the standpoint of the inquirer at the time the inquiry is made. Though innumerable conditions are demonstrable in the origin of any occurrence, it is the specific conditions (determination factors of Roux) that are most important; next to these in importance are the conditions that are essential but not specific (realization factors of Roux); least important are the other conditions—those that are non-essential since they vary greatly without materially influencing the specific character of the process. It is, then, the determination factor or the realization factor that is to him of greatest importance either for explanation or for practice that is rightly designated as the "cause" by a given inquirer.

If these points be clearly kept in mind, there should be no quarrel between "causal thinking" and "conditional thinking." Without causal thinking, that is, without estimation of the relative importance of conditions from the standpoint of the questioner, time and effort must be needlessly squandered, theoretical knowledge must be retarded and practical action must be needlessly hampered.

DEFINITIONS OF "HEALTH" AND "DISEASE"

After this brief general discussion of "causal thinking" and of "conditional thinking" and before passing on to my main topic—the etiological approach to the study of disease—it would seem desirable to pause for a moment and to ask ourselves what we mean by "health" on the one hand and by "disease" on the other. Here, again, precise definition is far from easy, despite the fact that we all use these terms rather glibly, think that we know what we mean when we use them, and all too often fail to realize that they are terms that are rather loosely used and have entirely different limits in the minds of those who use them.

It should in the first place be borne in mind that the terms "health" and "disease" are abstractions; we do not know health or disease as concrete realities for these terms refer to certain states met with in persons whom we regard on the one hand as healthy persons or on the other as diseased persons. But there are no two healthy persons who are alike and, accordingly, the states that we designate as health must also be different from one another. Again, the states that we speak of as disease are not alike in any two persons, even when these two persons suffer from what we call the same disease.

What then do we mean when we speak of a healthy person or of a diseased person? Certainly, we do not mean that the state of the average must be a state of disease; nor are we helped much by saying that the healthy person is a "normal" person and that the diseased person is "abnormal," for we then merely postpone the answer until after inquiry as to what is normal and what is abnormal.

I have studied carefully the definitions given by many authors; the most satisfactory, in my opinion, are those of Grote, who defines *health* as the capacity of the organism for adequate responses to influences in its surroundings and *disease* as inadequate responsiveness of an organism to influences in its surroundings. A sick person is one whose vital responses are inadequate to his biological needs. These definitions seem to me to be broadly conceived, but they obviously widen the conception of disease so as to include all forms of inadequate responsiveness — bodily, psychical and social.

EXTERNAL AND INTERNAL CAUSES OF DISEASE

Human beings are complex systems consisting of definite arrangements of energies and materials in space. Changes in such complex systems may depend partly upon external conditions, partly upon internal conditions. The external conditions that produce change are often spoken of as *stimuli*; these acting upon internal conditions result in so-called *reactions* or *responses*. In health, these reactions are adequate to the biological needs of the person; there is good adjustment of the internal and the external relations. In disease, the reactions are inadequate to the biological needs of the person; there is some maladjustment of the organism to its environment. Even when the disease-process leads to results that are ultimately beneficial to the person affected, there is

temporarily, at least, some inability adequately to respond to certain biological needs.

Maladjustment may depend either upon an inimical environment or upon defects within the organism itself. Hence have arisen the idea of external causes of disease on the one hand and the idea of internal causes of disease on the other. We say that disease is due to internal causes when inadequate responses are observed in a normal average environment; and we attribute disease to external causes when the reason for inadequate response lies in the surroundings. Thus the inadequate responses of a child with congenital heart disease are due to an internal cause, whereas, the inadequate responses of a person suffering from malarial or typhoid infection or from phosphorus poisoning are due to external causes. In many cases of disease, however, perhaps in most, we have to deal with a combination of internal and external causes. For example, in persons whose structures and functions, either through inheritance or through earlier environmental injuries, are such as to give them the disposition to inadequate response to some external noxa, we must consider both the disposition and the exposure as important for the origin of the disease that develops. Thus one person, through inheritance, may have an inborn disposition to infection with tubercle bacillus; whereas, another person not born with a disposition to tuberculosis may acquire a disposition thereto through an attack of measles or of influenza. The internal causes of disease are sometimes spoken of as endogenous causes and the external causes as exogenous. An example of disease of the purely endogenous type is seen in the manic-depressive psychosis and an example of a disease of the exogenous type is seen in scabies.

During the second half of the last century, great progress was made in the study of disease due to exogenous causes through the development of bacteriology and parasitology; in the first quarter of the new century, our attention has been re-directed, with great benefit, to the internal causes of disease through the newer studies of constitution.

APPLICATION OF BIOLOGICAL CONCEPTIONS TO THE STUDY OF ETIOLOGY

Thanks to the influence of modern biology we now approach the study of the human individual in health and in disease in new ways. Realizing that every human

being develops from a fertilized egg-cell (or zygote), formed by the union of a paternal with a maternal gamete, and recognizing that this fertilized egg-cell gradually develops into a mature organism as a result of a series of reactions with energies and materials in the environment (intrauterine and post-natal), we understand that the developed organism (or *phenotype*) must consist of two fundamentally different parts:—(1) That derived from the two parents carrying with it all the inherited potentialities—the so-called *genotype*, and (2) that derived from the surroundings including the energies and substances that convert inherited potentialities into realities—the so-called *paratype*. The whole make-up of the realized organism or phenotype is often spoken of as its *constitution*, which accordingly consists of two parts, the inherited part or *genotypic constitution*, and the acquired part or *paratypic constitution*. What we call the manifestations of life in a human individual are therefore reactions of the phenotype with the stimuli that act upon it from without. When these reactions correspond to the biological needs of the person we speak of *health* of person; when they are not adequate we speak of *disease* or *anomaly*.

Now as I have said no two human beings are alike, for no two phenotypes are precisely alike and no two genotypic patterns are ever exposed to precisely the same environment. The only instance in which two genotypes are alike is met with in identical twins, where a fertilized egg-cell divides into halves and each half develops into a human being. But even these identical twins must be exposed to somewhat different environments, so that, though they are alike in genotypic constitution, they must be somewhat dissimilar in paratypic constitutions. The importance of the identity of the genotypic constitution in identical twins is, however, shown by the fact that, in many instances, such twins have been known to develop the same disease at approximately the same time in later life though separated from one another by a distance of hundreds of miles.

Though, as I have said, no two human beings are exactly alike, the differences may be entirely compatible with health. In other words, a high degree of morphological, functional, or regulatory *variation* may exist without the occurrence of disease. But when variation transcends certain limits, there is usually some special individual predisposition to disease, since

excessive variation from the average type is likely to limit the powers of adaptation to the environment. Obviously, therefore, an intensive study of *personal biovariants* ought to be very important, since an acquaintance with them and with their corresponding dispositions to disease should be helpful in the development of methods of "special" as contrasted with "general" prophylaxis.

As examples of *morphological personal variants* I would mention the habitus asthenicus with its special disposition to tuberculosis, to undernutrition and to schizophrenia, and the habitus pyknicus (or habitus apoplectic) with its special disposition to chronic arterial hypertension, to obesity, and to manic-depressive psychosis. As examples of *functional personal variants* (in whom there are differences in biochemical composition or differences in modes of chemical reaction), I might mention the gouty diathesis, and the exudative diathesis. And as examples of *regulatory personal variants* I would point to persons with endocrine disorders like acromegaly or exophthalmic goitre and to evolutive and involutive disorders like infantilism in which the developmental acme is delayed and like progeria in which the time of appearance of the phenomena of senescence may be premature.

As long as these personal variants (or so-called special biotypes) are adequately responsive, we do not say they are diseased. We speak of "disease" only when a person becomes inadequately responsive, that is to say, when his powers of adaptation become insufficient to his personal needs in the way of functional performance and endurance.

It will be clear I think that the biological conceptions to which I have just referred help us more systematically than ever before to investigate the causes of disease and the conditions that predispose to disease. In studying any single person, we must now pay attention both to his constitution and to his environmental situation; and in considering the constitution we bear in mind both the inherited or genotypic part and the acquired or paratypic part. A human being has *health of constitution* when he is capable of making adequate responses to ordinary external circumstances. Inadequacy of responsivity must be due either to faulty constitution, or to environmental situations that are too unfavorable, or to both. A man or woman with constitutional inferiority will react inadequately in situations to which

persons of sound constitution will respond satisfactorily; but even a person with the soundest constitution may fail of adequate response in external circumstances that are over hostile. For either health or disease, many factors must co-operate; it is the total sum of conditions (internal and external) rather than any single factor that must be held responsible.

Medical research and medical practice in our time are being profoundly modified by the applications of these methods of study of human phenotypes and their modes of response. At the moment, investigations of human constitution stand in the center of medical interest. More attention is being paid to genotypic or inherited factors than formerly. We seek the origin of bodily habitus, of chemical tendency or diathesis, of intellectual power and of characterological trend of persons, in the genes that have been transmitted by forebears. Indeed, there may be some danger, just now, that the significance of environmental factors may be temporarily too much pressed into the background, except perhaps in the case of infections and parasitic invasions. The significance of extrinsic causes must never be neglected in our enthusiasm for research in intrinsic domains. It may be true, as someone has poetically put it, that the arteriosclerosis of later life is but "the end of a song that is sung in the cradle," but it is also possible, as many still think, that dietetic errors, physical and mental overexertion as a result of excessive environmental stimulation and, in general, the wear and tear of life are important in addition to a pyknic habitus, or, to a general or a regional vascular inferiority, of genotypic source. I am, however, greatly impressed with the frequency with which I meet with early arterial hypertension in certain families, as well as with the occurrence of angina pectoris or of hemiplegia at about the same age in father and son or in sister and brother. And, again, though constitutional factors may play a part in the origin of scurvy, of rickets, of beri-beri, and of pellagra, the most enthusiastic investigator of constitution will not deny that the obligatory condition in the origin of these maladies is the insufficiency of specific vitamins in the diet. Moreover, we dare not forget that one and the same disease may arise from wholly different causes or that certain disease states may depend upon the co-existence of several causes. I need only remind you of the etiology of bronchial asthma on the one

hand or of obesity on the other to bring conviction on this point.

In the etiology of certain diseases there may be a whole series of links in the pathogenetic chain. Thus, the pathogenesis of the disease in which pernicious anemia appears, is not wholly explained by absence of certain substances contained in liver or liver extract; for, though the administration of liver abolishes the anemia, it does not cure the achylia gastrica, it does not prevent the degeneration in the posterior and lateral funiculi of the spinal cord, nor does it abolish the toxemia as measured by Macht's phytotoxic test.

As I said in the beginning of this address, however, it is by no means necessary to throw overboard "causal thinking" and to attempt to replace it by "conditional thinking" merely because several conditions may co-operate in the production of a given disease state. Even when we are compelled to admit that several conditions are concerned in the origin of a given disease, we will do well to attempt to estimate the relative importance of the several conditions and we are justified, always, in laying emphasis upon an obligatory condition and designing it as "cause." In the origin of tuberculosis, the tubercle bacillus is the obligatory condition; in scurvy, a lack of the antiscorbutic vitamin C in the diet is the obligatory condition; and in hemophilia, an inherited chemical anomaly of the blood is the obligatory condition. Though several other facultative conditions may be grouped around the obligatory condition (or "cause") as predisposing elements, we cannot afford, either from the standpoint of theory or of practice, to lose sight of the predominant significance of a single main factor.

THE APPLICATION OF SOCIOPSYCHOLOGICAL CONCEPTIONS TO THE STUDY OF THE ETIOLOGY OF DISEASE IN MAN

I have laid some stress upon the importance of modern biological conceptions for the study of etiology. Before bringing this address to a close I should like also to emphasize the significance of psychological and sociological conceptions for the study of inadequate responsivity in man. For in our time, particularly, we are greatly indebted to neurologists and to psychiatrists for opening our eyes to the importance of the thinking, the feeling and the striving of man, as well as of his social relationships, for an understanding of his modes of response, for an ex-

planation of his maladjustments, and for clues for the practical management of persons who are psychoneurotic, insane, imbecile, delinquent, or criminal. The great intricacy of man's psyche, as well as the great complexity of his adjustments to a social as well as to a material environment, are responsible for an ever-increasing group of problems that physicians, better than anyone else in the community, are fitted to attack.

We are in these days learning much about the relations of bodily type to emotional trend and much about the relation of temperamental type to social maladjustment. In our studies of patients today we are compelled to familiarize ourselves with the psychical and social history as well as with the somatic history of those who come to us for help; and we are realizing more and more that a knowledge of intellectual capacity, of personality make-up, and of social or anti-social tendencies, is just as important for the explanation and management of inadequacy of response as is a knowledge of physical, chemical and bacteriological relationships. The practitioner of tomorrow, even of today, must find himself seriously handicapped without more than a fragmentary knowledge of the motivations of human conduct, of the desires that men strive to gratify, and of the intrapersonal and social conflicts that may arise during the struggle for the satisfaction of these desires. Researches upon instinctive tendencies, upon disharmonies in these tendencies, and upon environmental circumstances that prevent the fulfilment of legitimate human desires, are indispensable for physicians whose duty it is to help to promote the welfare of single persons as well as that of society as a whole.

Studies in these newer fields promise greatly to widen the domain of medical activities. From now on, it will be the duty of medical men to strive to discover the causes, the cure, and the prevention of inadequacy of response not only of the body but also of the mind and of the psychophysical unit as a whole. It is surprising how many practitioners, skilful as they may be in physical diagnosis, are lamentably lacking in training for the quick and safe recognition of evidence of feeble intelligence, of disordered emotional life, of faulty will, of tendency to social maladjustment, or of conduct disorder. And yet it is in these domains last mentioned that inadequacy of biological responsiveness is fully as pronounced as in the

functioning of the heart, of the liver, or of the kidneys. There is, it seems to me, every reason to believe, that human thought, human feeling and human behaviour are fully as definitely determined by inheritance and by environment as are the secretions of the glands or the growth of the hair and nails. It is difficult to understand how anyone who has had any considerable experience with the insane, the criminal, the psychoneurotic or even the malingerer, can hold any other view. At any rate, as in all other fields of medicine, most progress is likely to be made here by working *as if* this were true.

ETIOLOGICAL DIAGNOSIS AND ETIOTHERAPY

In making diagnostic surveys of human phenotypes whose responses to environmental stimuli are inadequate to their biological needs, it is desirable, after a complete analysis of the patient's life history and of his heredofamilial history and after thorough exploration of his structures and functions by physical, chemical and psychical methods, to synthesize the results from at least four different standpoints. First, the symptoms and signs should be surveyed from the standpoint of the clinical syndromologist who will recognize groups of symptoms, symptom-complexes, or syndromes that will help to establish the nosological position of the case (*symptomatic or syndromic diagnosis*). Secondly, the findings should be examined from the standpoint of organic structural deviations from the normal (so-called *pathological-anatomical diagnosis*). Thirdly, the data accumulated should be reviewed from the standpoint of function and regulation, an effort being made to determine in how far the disturbances can be referred to the activities of different tissues, organs, or organ-systems and to that of the whole psycho-physical unit or the total personality of the patient (so-called *pathological-physiological diagnosis*). And, fourthly and finally, the attempt should be made to arrive, as far as is possible, at conclusions regarding the obligatory and the facultative conditions that have led to the abnormalities discovered, in how far these can be located in the constitution (genotypic or paratypic), in how far they lie in environmental circumstances, and the serial sequence of the pathological events, that is to say the successive links in the pathogenetic chains (so-called *etiological and pathogenetic diagnosis*).

A comprehensive diagnosis such as this

will afford the best clues for therapy (surgical, symptomatic, functional or regulatory, substitutive, and above all causal and conditional). When the etiology has been determined, the causes can sometimes be removed and the faulty conditions modified (etiotherapy). But even where the causes cannot be removed, much can often be done to help the patient through functional or regulatory attack. Moreover, purely symptomatic therapy also has its place and should never be neglected. In the planning of campaigns of prophylaxis, etiological factors are, of course, of predominant importance.

CONCLUSIONS

All advances in our knowledge of the etiology of disease, as in every other department of natural science, have come through accurate observation and through well-devised experimentation. Imagination is necessary and is as desirable in medicine as it ever was; all great investigators have been endowed with vivid imaginations. But the true medical investigator always submits the speculative ideas that arise in his mind to the crucial test of observation or experiment. The time for "medical systems" and for *a priori* medico-philosophic speculations uncontrolled by objective methods is past; it should never be permitted to return. The slow and painstaking accumulation of facts by men trained in the natural sciences of physics, chemistry, and biology and in the mental sciences of psychology, sociology and ethics will gradually increase our understanding of the causes of disease and will lead to ever more successful methods of improving biological responsiveness.

I have tried to show that "conditional thinking" in medicine does not do away with "causal thinking", provided we accept the definition of "cause" that I have given, namely, the etiological factor or group of factors that on examination of the multiplicity of conditions concerned in a process is found to be of the greatest importance from the standpoint of the inquirer who sets the problem at the time that he sets it. I have tried to show that biological and sociological conceptions of man are greatly widening the work of the physician, in their search for causes, since they make it clear that inadequate responsiveness to biological needs may be due sometimes to the constitution of the phenotype, sometimes to the physical, the psychical or the social environment in which the individual is immersed. Neglect of any contributing factor to the irre-

sponsivity observed, whether that factor be constitutional or situational, may result in failure where success could otherwise be achieved. And, finally, notwithstanding the pessimism that temporarily prevails among physicists who work with light-atoms and and electrons, we physicians can afford still to be optimistic and be guided by our common sense. Our studies based upon the idea that the universe is an orderly place and upon the conviction that observation and experiment will reveal the origin and nature of disease and permit us to help the human psychophysical units that have become inadequately responsive, would seem to be justified, at any rate for our practical purposes. We are gradually learning to predict; and we are steadily and in ever-increasing degree gaining the power to control! Let us, therefore, continue this good work.

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CASE OF FRONTAL SINUS EMPYEMA WITH SUBPERIOSTEAL ABSCESS IN GIRL AGED SEVEN YEARS

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Patient was a well nourished girl of seven years, and gave no previous history of trauma, headache, or any of the severer children's diseases, was not subject to repeated naso-respiratory infections, this present illness being her first severe infection.

Chronologically, the order of events was as follows: On, or about February 16, 1924, she contracted a typical "head cold", the discharge became thick and purulent four or five days later, and the child began to complain of pain over the eyes for the first time, this pain being neither severe nor alarming. Two weeks after the onset, a slight edema appeared over the right eye and the attending physician, Dr. Baumgarten, treated this successfully by means of a nasal spray of adrenalin, and cold compresses. One week later, the swelling reappeared, at which time the child underwent a brief attack of German measles. The swelling, however, refused to recede under treatment, but steadily became larger and the accompanying periorbital edema more pronounced.

was fluctuant and but moderately tender to touch.

Anterior rhinoscopy on the right showed a moderate septal deflection high up toward the right and the mucosa highly inflamed and congested so that the middle fossa was obliterated and no free pus was draining from any point. The patient had noted no purulent discharge either ante-



Figure 1

It was at this time, March 16, one month after onset, that I saw the patient for the first time. Figures 1 and 2 illustrate her appearance very well.

The swelling over the glabellar region was about the size of a hen's egg, no inflammatory reaction was present in the skin, which was tense and shiny, the mass



Figure 2

rior or posterior for the preceding five days. The left nares showed nothing of interest except a moderate general congestion. The antra were clear on transillumination and not tender to pressure.

Temperature was 99.2 and child did not look or act acutely ill.

She entered Harper hospital March 17, 1924, and roentgenograms taken at that time are shown in Fig. 3. Anterior-posterior plates, according to the report, show clouding of both maxillary sinuses, right

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ethmoid definitely cloudy, left faintly so, and both frontals air-containing. Lateral plates, however, showed well developed frontal sinuses, both being cloudy.

It was impossible to get the location of any bone dehiscence by examining the plates. Other details of the examination showed a W.B.C. of 11,000 with 78 per cent polys, a negative Wassermann, and normal eye grounds.

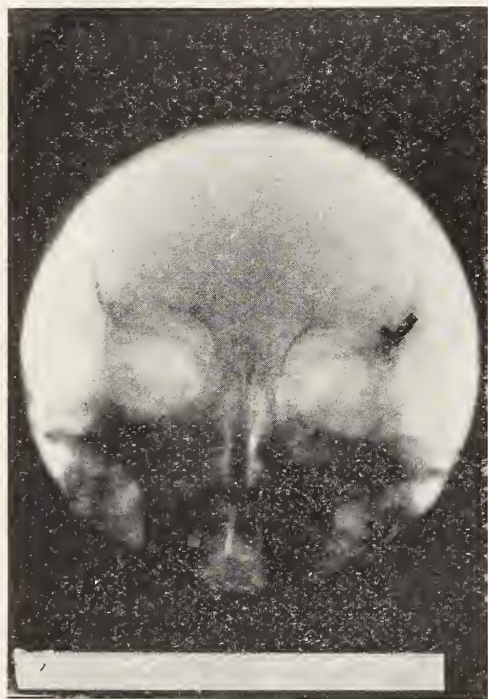


Figure 3

The first operation was done March 19. We made a regulation right brow incision as for a Killian, but did not extend this down the lateral aspect of the nose. Upon incising through the periosteum, about one-half ounce of thick yellow pus was evacuated, which later, on culture, showed staphylococcus and non-hemolytic streptococcus. Bone necrosis, involving the whole outer table in an area the size of a 25-cent piece was found, not directly over the sinus, but directly in center of the glabella. In order to remove this a second incision was made one and one-half inches long extending upward in the mid line from bridge of nose. The necrotic bone was then removed, and outer edge of sinus lightly curetted, but the inner table was left absolutely alone. A one and one-half inch perforated rubber tube drain was inserted in the central incision and both wounds left wide open. On account of the extreme thickness of the wound edges nothing further was done at this time.

For the next five days there was rather

profuse purulent drainage, and the subcutaneous infiltration gradually receded. There were no signs of intra-cranial involvement and child's condition was excellent, so, on March 24, a second operation was performed.

This time the inner wall of the right frontal sinus was thoroughly examined and no demonstrable communication with the brain cavity was found. A large fronto-ethmoidal cell opened down into the nasal cavity. The sinus mucosa was so necrotic it was easily sponged away. The inter-frontal bony septum had a necrotic perforation which led directly into the left frontal sinus. This septum was removed but no free pus was seen in the left sinus. With these additional findings, we again withdrew without completing a Killian and awaited the results of the next few days. The next day there was a marked swelling and redness around the left eye, but this gradually receded during the next 48 hours.

The third and last operation was done on March 28, at which time the brow incision was continued down the lateral aspect of the nose, and the floor of the right frontal sinus was removed, being careful to preserve the orbital bridge, the lateral opening was made into the nose, and about one-half the right middle turbinate was cut away. A gauze and rubber drain was placed leading from the sinus down through into nose and out the right nostril. All skin incisions were closed with interrupted horse hair sutures in the hope that the one drain would be sufficient for both frontals.

The post-operative course was uneventful from this time on. All sutures held but one. The drain was removed on the sixth day and she left the hospital April 4. A small stitch abscess around one suture near the inner canthus delayed the complete healing somewhat, but by April 26th complete healing had taken place.

In May, child had an acute naso-respiratory infection but it produced no trouble in the operated area. Still, the mother believed everyone would worry less if they moved to Florida, which they did.

I saw patient the last time in August, 1926. She has been healthy while in Florida, and the cosmetic result does not necessitate the wearing of glasses as we had anticipated.

COMMENT

This case seemed so unusual that I determined to search the literature for the

past 25 years in the effort to find a parallel to it.

McKenzie reports a case of a girl aged seven, who, following trauma, developed a frontal sinusitis with pronounced pain and swelling which spontaneously ruptured and gradually healed without operative interference. Others report cases between the ages of eight and fourteen years, but none of these approached the degree of involvement which we have here. Oppenheimer in 1913 stated that previous to the seventh or eighth year the frontal sinuses are usually not developed. Occasionally, however, as early as the fifth year, but as a rule the sinus does not extend far into the frontal bone before puberty. This case, among others, shows the importance of the exceptions and emphasize that due to the extremes of variability of the frontal sinus not only in size and shape but in the age at which it develops, each case is a law unto itself.

I was fortunate, however, to find in the *Monatschrift fur Ohrenheilkunde* in 1913 a similar case reported by Vander Wildenberg which showed an even greater involvement than this one and is well worth abstracting.

A child, aged seven years, was recovering from a typical attack of mumps, when she complained of pain and swelling over the right eye. There was no previous history of catarrh or nasal discharge. At the first examination, the child complained of intermittent headache and level of brow there was a slight swelling the size of a five franc piece extending a little below the level of the nose and most marked on the right, the upper lid being noticeably edematous. Anterior and posterior rhinoscopy were negative and there was but a

low degree of fever. Five days later, severe frontal pain set in, and the swelling increased and became fluctuant. This was incised and the underlying bone explored, but no lesion was found. Child grew worse after this procedure, temperature rising and pain more severe, and on the third night following the incision had an epileptiform attack, was irrational, and had muscle spasms and incontinence. Tendon reflexes were exaggerated, Babinski and Kernig were positive and the cerebrospinal fluid was under pressure and slightly cloudy.

The child was immediately operated. The right frontal sinus showed polyps completely blocking naso-frontal duct, but all bony walls were intact. The left frontal was therefore exposed and polyps were found here also, and on being removed from posterior wall, showed tense dura underneath. This was incised and several drops of pus came out. After probing in all directions, gauze drainage was inserted and nothing further done. That evening the temperature fell to normal and in eight days all the meningitic symptoms were gone, and in one month the child had completely recovered from all three abscesses, pre-frontal, frontal, and sub-dural.

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LIVER MAY BECOME A SUBSTITUTE FOR INSULIN

Liver, which is now being used extensively as a cure for anemia, may become a substitute for insulin in the treatment of diabetes, it appears from studies made at the Peter Bent Brigham hospital, Boston, by Dr. Harry Blotner and Dr. William P. Murphy. Dr. Murphy with Dr. G. R. Minot developed the liver treatment for pernicious anemia. In the study just reported, Doctors Blotner and Murphy found that liver contains a substance that will reduce the blood sugar concentration of the blood as insulin does. Liver has been heretofore excluded from the diet of persons suffering from diabetes, because liver contains glycogen, a carbohydrate which may be turned into sugar in the body. In these studies diabetic patients were given liver to eat in place of insulin injections, and their blood sugar re-

mained at a low level. Liver may not prove as effective in reducing the blood sugar of all diabetic patients as it did in the cases studied by Doctors Blotner and Murphy. However, it will be of economic advantage to those for whom it is effective, particularly in the case of patients who cannot give themselves the insulin injections and must add the cost of a nurse to the cost of the insulin itself. When liver is analysed chemically, the fractions or parts that are effective in the treatment of pernicious anemia have no effect on the blood sugar, while certain liver fractions that are ineffective in the treatment of pernicious anemia have an effect on the blood sugar like that of whole liver, the studies showed.—*Science Service*.

CONGENITAL VALVE OF THE POSTERIOR URETHRA

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Congenital valves of the posterior urethra are not common, but when present may be responsible for much damage, as the following case illustrates:

CASE REPORT

Henry Ford Hospital, No. 100871. A boy 10 years old was brought to the Henry Ford Hospital with a history of urinary disturbance. Apparently his health had been that of a normal boy until a year before admission, when he commenced to have nocturnal enuresis and slight incontinence during the day. He grew worse; three or four months previous to his admission, on the advice of a physician, circumcision had been done, but no improvement followed. During the month before admission he had been catheterized several times, about a quart of urine being obtained each time.

Examination showed a fairly well developed, but markedly undernourished boy. The breath had a urinous odor. There were several sloughing ulcers on the buccal mucosa, especially on the left side of the tongue. The tonsils were large and the teeth dirty. The anterior and posterior cervical glands were enlarged, and the inguinal glands shotty. The chest was funnel-shaped; the heart and lungs showed nothing abnormal. In the lower abdomen, extending to slightly above the umbilicus, was a firm, triangular, somewhat irregular tumor, evidently a distended bladder. The left testis was undescended. The patient was catheterized and a quart of cloudy urine obtained. Following this, the abdominal tumor disappeared except for a doughy, muscular mass deep in the pelvis.

The blood Wassermann test was negative. Examination of urine: specific gravity, 1.008; albumin, two plus; sugar, none; pus, four plus. Routine examination of the blood: hemoglobin, 64 per cent; red blood cells, 3,140,000; white blood cells, 16,800. Blood chemistry: non-protein nitrogen, 112 mg. per 100 c.c. blood; urea nitrogen, 71 mg. per 100 c.c. blood; creatinine, 3.53 mg. per 100 c.c. blood. Phenol-sulphon phthalein did not appear in the urine in 45 minutes after intravenous injection.

An indwelling catheter was fixed in the urethra, and the patient was put on forced fluids and a low protein, high caloric diet, containing much sugar. Under this regime his condition improved rapidly, and in three weeks the non-protein-nitrogen of the blood fell to normal, and the phenol-sulphon-phthalein test of renal function showed 13 per cent in two hours.

With the Butterfield cystoscope an examination of the bladder and urethra was made. The bladder did not show extreme trabeculation, but did show marked injection. The ureteral orifices were not seen. In the posterior urethra were found two valvelike folds of mucous membrane, running from the verumontanum to the roof of the urethra near the bladder orifice. Cystography showed a large conical bladder with a

huge ureter running from it on the left side. On the basis of these findings, diagnosis was made of chronic urinary obstruction caused by congenital valve of the posterior urethra. Through the Butterfield cystoscope the valve was cut by the fulgurating spark.

Eight days later, one month after admission, the patient left the hospital, able to hold urine all night, but dribbling some in the day time, while up and around. His general condition was excellent, and shortly after his discharge from the hospital he returned to school. He has been kept under observation during the subsequent seven months; his general condition remains excellent, and he leads the life of a normal boy of nine except that he wears a portable rubber urinal during the day. He is able to start and stop the urinary stream, but apparently when he is at all active there is leakage. Probably the internal sphincter has been so dilated that it is incompetent, and the voluntary sphincter has not completely taken over its function. To remedy this, it may be advisable at a later date to perform some kind of a plastic operation on the bladder neck.

Of the interesting features of this case, probably the most striking is the length of time the patient was under medical observation before it was recognized that there was an obscure condition present which required special investigation. It is only in the past few years that these congenital valves of the posterior urethra have been recognized, and only comparatively recently that instruments have been devised by means of which the urinary tract in children can be thoroughly examined. There is now, however, no reason why a child with a urinary lesion should be allowed to drift along without a diagnosis for an indefinite time, while his renal tissue is being steadily destroyed. There are many conditions capable of diagnosis for which we know of no adequate treatment, but there are also numerous conditions amenable to treatment if recognized early, and among these are some, if not all, cases of congenital valves.

The first mention of such congenital valves in the literature is by Lengenbeck in 1802. The first case diagnosed clinically was by Young in 1913, and the condition was successfully treated by him at the time. Up to 1927 fifty-six cases had been reported, some having been diagnosed clinically and showing a fair percentage of operative cures, and others having been recognized only at necropsy.

Young and Frontz have studied the condition very carefully, and divide these classes according to the type of valve present. In Type 1 the valve folds extend

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downward from the verumontanum, joining the walls of the urethra in such a way as to cause obstruction of the outflow of urine, and none of the introduction of instruments from the outside. This is the commonest type. In Type 2 the folds extend upward toward the bladder from the verumontanum. The case described in this report belongs in this class. In Type 3 there is an iris valve, a membrane with a small opening, unconnected with the verumontanum, and which is attached to the whole or a part of the circumference of the urethra. The etiology of these conditions is in dispute. It seems probable that the condition is of embryonic origin, but no theory of their origin explains all these types.

The symptoms are those of urinary obstruction, usually with paradoxical incontinence, infection, and in the late stage, renal insufficiency. In the diagnosis, the history is very important. Urinary difficulty or incontinence, unassociated with pain, is suggestive; abdominal distention may be present. In a male child any urinary obstruction, especially if the urine is infected, should cause suspicion of the presence of a valve. Usually catheterization is easy, and the presence of a large amount of residual urine should direct attention to this condition. A cystogram often gives valuable information concerning the condition of the posterior urethra

and the ureters, which in long-standing cases may be tremendously dilated. These valves are not of frequent occurrence, and are usually reported in childhood, because if the condition is not corrected, the victims often do not live to adult life. The great majority of reported patients are under 10 years of age, though the condition sometimes persists to old age before being discovered.

The boy reported above is much improved, but the ultimate prognosis is not good on account of the extensive irremediable renal damage already present, and the urinary tract infection which will probably not clear up. It is deplorable that most of these conditions are not diagnosed until so much damage has been done, and it is to be hoped that in the future such cases will be seen earlier. The importance of a persistent pyuria in the absence of other symptoms has not been fully appreciated. Certainly any pyuria extending beyond six months demands urologic investigation, no matter how young the individual. This is especially important in the case of boys, since in practically all cases of persistent pyuria in boys there is an abnormality of the urinary tract as the chief causative factor.

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RACES REACT DIFFERENTLY TO BROMIDE DRUG

If the doctor asks, "What race do you belong to?" it may not be one of those unimportant questions. It might make a difference in the treatment prescribed. That this is the case in epilepsy was reported by Dr. John Notkin and three associates from the New York Post-Graduate Medical School and Hospital, to the American Psychiatric Association.

Italian and Hebrew patients are used to large amounts of salt in their food. When they were given sodium bromide, a sedative, to ward off epileptic convulsions, Dr. Notkin found that special care had to be taken that the bromide did not reduce the salt concentration in their blood too low. Anglo-Saxons who ordinarily eat less salt could stand higher doses of this drug without reducing the salt concentration in their bodies to a hazardous extent.

Bromide has been largely discarded in treating epileptic patients because of its undesirable effects on the body chemistry. The investigations at the Manhattan State Hospital indicate that if the dose is adapted to the patient's nationality and to his individual body chemistry, the undesirable affects can be averted.

"The effect of bromide on the body chemistry is not yet fully understood," Dr. Notkin said. "It seems reasonable to suggest that the anti-spasmodic influence of the drug is due to the decrease of the irritability of the nerve cell."

Sixty-five cases given the bromide treatment were described by Dr. Notkin, who said that the number of attacks of convulsions was greatly reduced and in many instances epileptics have had no seizures for a year or longer.—Science Service.

FLU CAUSES RECORD FEBRUARY DEATH RATE

The highest February death rate for six years has been reported by the Metropolitan Life Insurance company. Influenza caused the high death rate in February of both years, 1929 and 1923. For February 1929 there were 3,821 deaths due to pneumonia and influenza. Deaths from certain other causes, such as diseases of heart, kidneys and circulatory system, were also increased during February, largely as a result of

influenza persons already suffering from a chronic form of these diseases. Another disease showing a high death rate for February was whooping cough. The records for the first two months of 1929 indicate that this will be another "whooping cough year" unless marked improvement follows. However, the months in which deaths from whooping cough are usually most numerous come later in the year.—Science Service.

THE RELATION OF UPPER RESPIRATORY INFECTION TO THE MIDDLE EAR

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GRAND RAPIDS, MICHIGAN

The usual large number of otitis medias at this time of the year, and the inadequate efforts to prevent such infections, prompts me to emphasize the relationship of the eustachian tube to upper respiratory and middle ear infections.

In order to emphasize this relationship, it is necessary to review the anatomy of these structures. The eustachian tube connects the cavity of the tympanum or middle ear with that of the nasopharynx, and forms a very important part of the sound conducting apparatus. The eustachian tube, with its prominent torus or cushion, is found in the lateral wall of the nasopharynx about 1 centimeter from the neighboring walls. The eustachian tube consists of two parts; an osseous and a membrano-cartilaginous portion. Its length in adults varies from 31 to 38 millimeters of which one-third is bony and two-thirds fibro-cartilaginous. The two portions of the tube are not in the same straight line, their point of junction forming an obtuse angle opening downward. The general direction of the canal from the tympanum to the nasopharynx is forward, inward and downward. The narrowest part of the tube is where the bony and cartilaginous portions join, and this is known as the isthmus. The mucous membrane of the tube is continuous in front with the nasopharynx, and behind with the tympanic cavity. It is covered with ciliated epithelium, and is thin in the osseous portion, while in the cartilaginous section it is thicker and thrown into folds. In the bony portion there is some diffuse lymphoid tissue under the thin mucous membrane. The cartilaginous area, however, contains many mucous glands, and adenoid tissue, especially near the pharyngeal orifice where it is called the tubal tonsil. Owing to the absence of a complete cartilaginous frame the anterior wall is in contact with the posterior except when acted on by the muscles. In the bony portion, though the lumen is smaller, it is open.

It is very important also to emphasize the anatomy and differences between the eustachian tubes of the adult and the infant.

In the new-born infant, the eustachian canal presents several marked variations from the adult type.

1. It is very much shorter, measuring not more than 14 or 15 millimeters as compared to 33 to 38 millimeters in the adult.

2. The tympanic orifice and the caliber

of the bony tube are quite as large as in the adult. The whole canal is therefore, in proportion to its length, much wider.

3. The two portions of the tube (membranous and bony) are more merely in the same straight line, so that there is no demonstrable angle at their point of junction.

4. The whole tube is nearly horizontal in direction, so that, while the pharyngeal orifice in the adult is on a lower level by 12 to 14 millimeters than the tympanic orifice, it is on the same plane as the latter, or even lower in the infant at term.

5. The pharyngeal mouth of the tube in the infant at term is on the same level as the hard palate, whereas in the adult it is not less than 10 millimeters above the hard palate. It is readily evident that all these differences help to account for the prevalence of tubal disease in young children.

Physiologically the eustachian tube serves as a communication between the tympanic cavity and the pharynx, and through this latter to the exterior. The obvious advantage of this arrangement is that the pressure on the two sides of the membrana tympana is kept the same. The pharyngeal opening of the tube is normally closed, but it may be opened by raising or lowering the pressure in the pharynx. This happens during the act of swallowing by the pull on the muscles, therefore we perform this act whenever our sensation from the ear drum warns us of an inequality in pressure upon the two sides. When, for instance, we enter a caisson in which the external pressure is increased over the normal atmospheric pressure, the ear drum would be driven inward by the excess external pressure were it not for the existence of the eustachian tube. Under these conditions the swallowing movement will open the pharyngeal end of the tube, and thus bring the tympanic cavity under a barometric pressure equal to that on the outside.

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Causes of (acute eustachian) tube and middle ear disease. Among predisposing causes must be included all conditions interfering with normal nasal respiration. The presence of adenoids is therefore a particularly potent factor, and children are much more frequent sufferers from tubal congestion and inflammation than generally recognized. Among adults such obstructive lesions as hypertrophic rhinitis, septal deflection, and ecchondroses, are conditions which are apt to induce recurrent attacks of eustachian disease.

Of exciting causes by far the most frequent and important is the common "cold in the head," or acute nasopharyngitis, with which some degree of eustachian congestion or inflammation is probably always associated. The acute exanthemata are next in importance as the cause of tympanic disease. The careless use of the nasal douche, and diving and swimming under water, are less often offenders.

Assuming an acute head cold—what is the means of conveyance to the middle ear? During any nasopharyngitis an otitis media may result by direct extension. There is an inflammation of the mucous membrane. There is an associated inflammation of the lymphoid tissue within the eustachian orifice, and about its posterior lip in Rosenmullers fossa. This inflammation may extend along the lymphoid tissue which is found throughout the length of the tube. Children are particularly subject to this means of conveyance.

The other very common means of transportation of infection is by forcible insufflation in blowing the nose. By this procedure the air in the nasopharynx is condensed and finds its way under pressure through the eustachian canals to the middle ear cavities. Foreful blowing of the nose at any time is a very bad habit that man has acquired. Animals are unable to do this. They must resort to sneezing to clear the nose, and consequently have much less ear trouble.

The pathology and course of this infection with its resulting otitis media is the next consideration. As soon as the tubal function is disturbed, i. e., when a supply of air to the tympanum is diminished, the air pressure within the middle ear cavity is negative, and the drum membrane is forced inward toward the inner tympanic wall by the unopposed atmospheric pressure from without. Inspection of the ear will now reveal a retracted drum membrane with no color changes. It is probably at this point that the aural symptoms

are experienced. The more common ones being stuffiness, sensation of foreign body in ear, loss of hearing, and tinnitus.

Unless the tubal lesion is promptly controlled, very marked congestion of the tympanic mucous membrane may occur. The peripharyngeal plexus of veins along the margins of the drum membrane, and the attachment of the hammer handle will be greatly engorged. This is the next step, namely, that of tubo-tympanic congestion, and the patient may now experience pain.

The next step in the course of the disease is that of acute middle ear inflammation. From the standpoint of practical and clinical otology, all middle ear inflammation may be considered under two heads, viz. 1. Catarrhal otitis media by which term is meant any acute inflammation, purulent or non-purulent, confined to the atrium, and 2. Acute purulent otitis media, or any acute inflammation involving both atrium and tympanic vault. The exciting cause and bacteriology may be the same in either case.

It may be well to review briefly certain anatomical features of the middle ear. It is divided roughly into an atrium and attic. This division is made by a horizontal line passing through the short process of the malleus. (This is also the upper level of the membrana tensa.) The attic contains the greater part of the ossicles with their ligaments and broad folds of mucous membrane, so that it is divided into spaces. The atrium on the other hand is lined by an exceedingly thin membrane very closely adherent to its walls. Externally the atrium is closed by the tense, inelastic, and rather unyielding membrana tympana. Superiorly the atrium is more or less completely separated from the vault by the ossicles with their ligaments, and mucous membrane folds. From the anterior wall the eustachian canal leads forward. Infection reaching the tympanum from the nasopharynx by way of the eustachian tube lodges first in the atrium.

An inflammatory process confined to the atrium begins with marked dilatation and engorgement of the vessels of the lining membrane. Next there is a transudation of serum and migration of leukocytes from the veins into the tissues of the mucoperiosteal lining. This inflammatory thickening of membrane renders the separation of atrium from the vault more complete. The eustachian tube is also closed by inflammatory swelling. With the formation of pus or effusion of serum into the atrium, the walls are soon subjected to pressure.

The outer wall or membrana tympana is the one which offers least resistance. Hence the changes in the appearance of the drum membrane.

The physical changes in the drum membrane vary with the time that has elapsed since the onset:

1. If seen shortly after earache is first experienced, the drum head will be found exceedingly red in the upper portion of the tense membrane. This gradually extends downward.

2. When examined a few hours later the tense membrane is not only exceedingly red, but bulges outward into the lumen of the meatus, and most of the landmarks such as the malleus and cone of light are obliterated.

3. Examination at a later stage may reveal the canal filled with pus with relief of pain. The perforation is usually found in the posterior segment, and more particularly behind the hammer handle. With free drainage, there is relief of tension and early resolution. As congestion about the eustachian orifice subsides, the eustachian canal provides a supplementary drain for the escape of serum or pus.

The acute purulent otitis medias in contradistinction to the catarrhal type involve both the atrium and vault. The vault presents certain anatomical features bearing very much on the pathology of suppurative lesions originating within it. (a) It is directly continuous posteriorly with the so-called mastoid antrum. Pus in the vault is therefore not quickly subjected to pressure, flowing rather backward into the antrum as the path of least resistance. There is as a result much danger of suppurative mastoiditis. (b) There is no natural pathway providing for the free escape of pus from the vault, and even extensive incision of the drum membrane does not provide free and adequate drainage from the antrum. (c) The lining membrane of the vault hangs loose serving as a suitable nidus for infection.

The physical changes in the drum mem-

brane naturally vary much with the progress of the disease. 1. If the patient is seen shortly after the onset, the upper posterior portion of the tense membrane and Shrapnell's membrane itself are intensely red. 2. Next there is a tendency for the redness and injection to spread down over all the membrana tensa, but Shrapnell's membrane remains most intense. There is also inflammatory thickening in this area and obliteration of landmarks. 3. Still later we see a definite bulging almost limited to Shrapnell's membrane. The rest of the drum is much inflamed. 4. Later we may see pus in canal, removal of which reveals the entire drum red and bulging. There is a small perforation in the posterior segment of membrana tympana. The postero-superior canal wall, i. e. that part immediately adjoining the drum membrane is much swollen, obliterating the line of demarcation between the canal wall and drum.

In practically all cases for early treatment, an incision of the drum should be made beginning near the lower marginal attachment of the posterior segment below and extending upward to and through the posterior fold so that the knife may enter and provide drainage from the vault. When, in addition, the postero-superior canal wall is swollen, this also should be incised by rotating the knife so that its cutting edge is directed upward. In the catarrhal form however, incision should be limited to the membrane tensa.

CONCLUSIONS

1. I believe we are justified in concluding that the eustachian tube by virtue of its position and anatomy, plays a very important part in middle ear infection, and that this is particularly true of infants.

2. That infected tonsils and adenoids, nasal obstruction or infections, head-colds, and incorrect nose-blowing are the outstanding causes of middle ear infections.

3. And finally, that middle ear infections once established, demand myringotomy.

ANXIETY HARD ON BODY, HYPNOTIC EXPERIMENTS SHOW

New evidence that anxiety may play havoc with the body no less than with the mind has been obtained by use of hypnosis. The tests were made by Dr. J. C. Whitehorn, Dr. Helge Lundholm, and G. E. Gardner, of McLean hospital, Waverly, Mass., and were reported before the American Psychiatric Association, recently at Atlanta.

The experiments indicate that when an individual becomes extremely anxious and fearful his body engine may race like a motor under

pressure and strain. On the other hand, moods of depression, elation, or irritability do not appear to produce any certain increase in the metabolic rate: that is, the rate at which the body engine converts food into tissues and energy.

Obtaining data on bodily processes during an emotional state is difficult because an excited individual is not likely to remain sufficiently quiet to permit the making of accurate tests with apparatus. A psychologist who consented to be hypnotized was used for tests.—Science Service.

THE TREATMENT OF CHRONIC BRONCHO-PULMONARY SUPPURATIVE LESIONS LIMITED TO ONE LOBE OF THE LUNG*

WYMAN WHITTEMORE, M. D.**

BOSTON, MASS.

For about fifteen years it has been my privilege to be directly in charge of all the thoracic surgery that has been done at the Massachusetts general hospital, with the exception of the cases of acute empyema that have been handled by the general surgical service during the last few years. In fact, as thoracic surgery seemed well on its way to become a very important branch of surgery, it was deemed wise, two and a half years ago, to establish a thoracic service, or clinic, at the Massachusetts general hospital. Two surgeons, two medical men and a bronchoscopist were put in charge of this work. We have been asked to pass judgment on cases that might be suitable for surgery, to help in making diagnoses, to advise treatment in cases that were not necessarily surgical, and finally to aid in the disposition of certain cases.

The type of case that has been of particular interest to me is that with a chronic suppurative lesion, the disease being limited to one lobe of the lung and of a non-tuberculosis nature. The term "bronchiectasis" is the common one in usage for this group, but as the incidence of limitation of the suppurative disease to the bronchial tree alone is very rare, and in view of the fact that the pathology commonly shows a varying amount of infection in the parenchyma of the lung as well as in the bronchial tree, we rather prefer the term "chronic broncho-pulmonary infection with bronchial dilatation."

We believe it is a fair statement to make that all methods of treating this condition other than its removal by some surgical procedure are merely palliative and will not cure the disease.

Medical treatment may be dismissed by saying that it will never cure this condition, although if the patient can devote his days to taking care of his health, spending his winters in a warm, dry climate, and using postural drainage, it may be that he will live a long and fairly comfortable life.

Bronchoscopy will not effect a cure, but if the patient is willing to be bronchoscoped at regular intervals, there is no question but what his condition will be improved, in that the septic symptoms will largely subside and the amount of sputum raised will be diminished. It seems to us

that the greatest benefit from bronchoscopy is obtained from aspiration of the pus from the bronchial tree, by the dilatation of any stricture or strictures of the bronchus and by the removal of any granulation tissue that is tending to obstruct the bronchus. We do not feel that irrigation of the bronchial tree or the injection of medicated oils is of any therapeutic value. The early cases of bronchiectasis which are caused by the lodgment of a foreign body in a bronchus, and which are promptly cured by its removal, are not included in this discussion.

We realize that a great deal has been said and written about the injection of lipiodol into the bronchial tree to aid in making diagnosis. Our clinic, as well as a great many others, has produced very beautiful X-ray films, but after a certain amount of experience, we feel that in most instances the diagnosis can be made without lipiodol. Often we see films taken just after the patient has coughed, which show lipiodol scattered throughout the good lung. May it not be quite possible that infection is carried by the lipiodol and spread into the sound lung? We feel this is a real danger and so at the present time only use lipiodol in a very small selected group of cases.

A third possible method of treatment is artificial pneumothorax. Here, again, we do not believe that any cure can be brought about by its use, with possibly very rare exceptions. On the other hand, if the lung is not adherent to the costal pleura, so that it can be completely collapsed, the general condition of the patient will be improved and the amount of sputum will be much diminished. But when the lung is allowed to expand, the symptoms gradually return and it is found that the disease has not been cured. In many instances in which artificial pneumothorax is kept up for a long time, fluid will appear in the pleural cavity,

* Read before the Michigan State Medical Society at the 108th Annual Meeting, Detroit, September, 1928.

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which will cause this form of treatment to be abandoned; and it is not uncommon for this fluid to become infected, or, as in our experience in a few cases, during the treatment adhesions have been torn, opening the infected area in the lung, resulting in a virulent empyema. The condition then becomes more serious, as to the bronchiectasis there is added an acute empyema.

I well remember a strong young Italian girl with multiple abscesses of the lower lobe and some bronchiectasis. Lobectomy was advised by me, but the medical service decided to treat her by artificial pneumothorax. She did well for several months, then developed some infection in the good lung, and finally a virulent empyema on the original side, and died.

Surgical operations for this condition are two-fold. The palliative ones from which no absolute cure should be expected (except possibly in extremely rare instances) and the radical ones from which a cure may be expected in a large percentage of the cases that survive the procedure.

There is no reason to suppose that drainage of the diseased area will produce a cure. However, it is quite justifiable to drain a large dilatation of a bronchus or a large abscess of the lung for temporary relief. This operation merely changes the direction of the drainage, and where the patient has been raising quantities of pus by coughing, following the operation large quantities come through the drainage tube and will continue to do so as long as there is an open sinus.

There is a certain amount of difference of opinion as to the value of graded thoracoplasty. When the disease is situated in more than one lobe of the lung, it seems to be the best operative procedure. But in dealing with the disease where it is limited to one lobe, our experience has led us to believe that it should be undertaken merely as a palliative. The general condition, following the operation, may be much improved and the amount of sputum temporarily or permanently greatly reduced, but it does not entirely disappear and the patient is not absolutely cured.

In fact, in our experience, although the amount of sputum may have been greatly diminished, yet there is still so much that it is a great question in my mind as to whether or not the procedure (bearing in mind the patient's suffering from a number of operations) has been worth while. I rather think not.

Every one interested in this subject is

familiar with Graham's cautery lobectomy. His results with this technic in cases of multiple abscesses of the lung are extremely brilliant. Our experience with this technic has been too limited to mention except to say that in those cases of abscess that have been drained unsuccessfully, in that after several months they show little if any signs of being cured, we believe this method the one of choice.

The cases that we consider ideal for lobectomy are the chronic broncho-pulmonary infections limited to the lower lobe, in which the lobe is atelectatic. It is very much smaller than normal, and often is overlapped partially or completely by the inflated upper lobe. In the X-ray film, the lobe is readily distinguished as a small triangular shadow with the base on the diaphragm. In this class of cases the operation, we think, should be done as early as possible. In other words, we do not believe that the patient who has had the disease for months or years before entering the hospital should be treated either medically, by artificial pneumothorax, or by bronchoscopy. Of course, bronchoscopy should be done to rule out foreign body or malignant disease.

Amputation of a lobe of the lung inside the pleural cavity has been accompanied by a very high mortality. In fact, the mortality has been so high in our hands at the Massachusetts general hospital, that the operation has been abandoned. Out of six cases operated upon, only one left the hospital alive. Some of the deaths were caused by unexpected accidents, as, for example, a sudden fatal secondary hemorrhage on the sixteenth day after the operation, and the development of a brain abscess in another case six weeks following operation, when the side operated upon had done very well and after the patient had reached the stage of being up in a wheel-chair.

About two and a half years ago, it occurred to us that it might be possible to do a lobectomy in an entirely different way, and the technic about to be described was employed in nine cases, in eight of which the disease was located in the lower lobe and in one in the upper lobe. The principles involved are mainly three: (1) To shut off the blood supply to the lobe. (2) To fix the mediastinum. (3) To allow infection to set in gradually.

There always has been, and always will be, infection of the pleural cavity following lobectomy for a septic condition. We believe that if this sets in rapidly, a "wild-

fire" infection takes place in the mediastinum, as well as in the pleura, and is the main cause of death.

Our desire, then, is to have the lobe gradually become gangrenous and slough off, having had its blood supply shut off, and that by this means infection of the pleura will be a slow one that the patient can withstand.

Under gas-oxygen and ethylene anesthesia the pleural cavity is opened and the diseased lobe of the lung examined to determine the extent of the process and also the amount of adhesions about the lobe. This seems to us important, as, if the adhesions are very firm and extensive, it may be unwise to attempt a lobectomy. But if lobectomy is decided upon, sections of enough ribs are removed so that the diseased part of the lobe may be delivered from the pleural cavity after adhesions and the pulmonary ligament is divided. The lung is firmly sutured to the muscles of the chest wall by chromic catgut and heavy linen thread, taking very deep stitches into the lung tissue. One large gauze sponge is placed beneath the lobe to aid in holding it, and a No. 20 French catheter is placed to the root of the lung, kept shut off, and the wound closed as tightly as possible. By means of this catheter the large quantity of bloody serum that collects in the pleural cavity for a few days may be removed without allowing air to enter. Needless to say, when the operation is completed the amount of lung protruding from the wound seems small, it being possibly as large as an orange, but there is a good deal more lung tissue outside the pleural cavity that is hidden by the thickness of the chest wall. After this operation there has been surprisingly little shock and the picture is entirely different from that following the usual procedure, as we have seen it. Nature may then be allowed to complete the operation, as in about ten days the lobe has become necrotic. A dry gangrene is at first established, then gradually there is a profuse foul discharge and eventually, in from 3 to 5 weeks, this whole area sloughs off, leaving a clean, healthy granulating stump deep in the pleural cavity with bronchial fistulae in it. During this process of sloughing and discharging, the cough gradually diminishes, to finally cease in the successful cases.

If a satisfactory amount of the lobe cannot be brought outside the pleural cavity, a tourniquet may be placed around the root of the lobe and the ends brought out-

side and fastened to the chest wall to fix the mediastinum. Or again, the blood supply may be shut off, if the lobe is very small, by gauze tightly packed about the root. Neither of these procedures is as satisfactory as the first.

The wound is lightly packed with gauze each day until it closes, or else a small rubber tube is placed into the pleural cavity for drainage. It has been unnecessary for the patients to remain for more than 6 or 8 weeks in the hospital.

In the 6 cases that made complete recoveries the bronchial fistulae gradually closed without anything being done to them. We believe that this has been due to the fact that the fistulae have been situated very deeply in the pleural cavity. In this position fistulae are much more apt to close spontaneously than when situated near the chest wall. The results of the 9 cases done are briefly as follows: 7 survived the operative procedure and 2 died (20 per cent). One of these later died 10 days following the operation from pneumonia in the good lung. The other case died 6 weeks after operation, having developed streptococcus septicemia. Of the 7 cases that survived operation, 6 are entirely recovered and well; 1 case has a persistent thoracic fistulae and during the last year has developed considerable disease in the good lung.

It has been gratifying to me to learn that Graham of St. Louis has employed this operation several times (three or four, at least), with satisfactory results.

Although the number of cases operated on is too small from which to draw any conclusions, it seems fair to make the following statement: (1.) That it is possible to perform lobectomy by this method. (2.) That in our hands this operation has been followed by less shock than in any other technic and the mortality has been very much lowered. (3.) That the operative procedure can be completed in one stage without too much risk.

NO CHANGE IN NATIONAL HEALTH PICTURE

Aside from a presumable increase in the number of cases of spring fever, the health picture throughout the country remained unchanged during the week ending May 18. Telegraphic reports from state health officers received by the U. S. Public Health Service here indicate very little change from last week in the prevalence of the principal communicable diseases. Meningitis remained about the same; measles, smallpox and scarlet fever showed slight decreases.—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner

LANSING, MICHIGAN

MICHIGAN DIPHTHERIA STUDY—1928

(Cities over 10,000 Population)

Group I is the blue ribbon group of cities in diphtheria prevention. In these cities there were no cases and no deaths during the entire year of 1928. Marquette, with a population of 12,000, and Traverse City, with a population of 10,000, are in the select group among the cities of the state, in respect to diphtheria prevention.

Grand Rapids, being the second largest city in the state, has a difficult problem, but attained the desirable goal of no deaths from diphtheria during the entire year of 1928. Grand Rapids was the largest city in the United States that had no diphtheria deaths during 1928. This distinction comes to Grand Rapids after five years of intensive and constructive work with toxin-antitoxin.

Jackson, with a population of 63,000, made a remarkable reduction in its diphtheria rates. The occurrence of one case, however, removed it from Group I. This fine record has been achieved after four years of intensive work with toxin-antitoxin.

Alpena, Monroe and Holland missed the select group because of the existence of one case in each city. These cities have given toxin-antitoxin to practically the entire school population. When the pre-school children can be reached with toxin-antitoxin, these cities will take their place in Group I.

In Group III are found cities having cases and deaths from diphtheria, but with case rates lower than the rate for the entire state.

Diphtheria is an absolutely preventable disease as the record in the cities of the first two groups of cities clearly demonstrates. Physicians and health officers must work together to convince the people of this before this disease will ever be banished. When these facts are placed before intelligent people, they will become sufficiently sensitive to the occurrence of the disease that they will do their important part in its prevention.

Group IV includes Lansing, the capitol city, and Detroit, the state's largest city, with four of its surrounding cities: Hamtramck, River Rouge, Wyandotte and Pontiac. The three cities having the high-

est diphtheria case rates were Owosso, Muskegon Heights, and Iron Mountain. These three cities are each about 10,000 in population, but have used only negligible amounts of toxin-antitoxin.

Iron Mountain has the unenviable record of having the highest diphtheria case rate. This case rate is three times higher than the general rate for the state. Likewise, the diphtheria death rate in Iron Mountain was three times as high as the general rate for the state.

Detroit, the fourth largest city in the United States, made another record in "fourths" as it was fourth highest in the state in case rates (144 per 100,000 population) and fourth highest in death rates (16 per 100,000 population).

DIPHTHERIA DEATH RATES—1927

(Deaths per 100,000 Population)

Michigan	11.7	Florida	6.4
New Jersey	11.4	Delaware	6.3
Utah	10.4	Massachusetts	6.2
Louisiana	10.1	Missouri	6.2
Mississippi	9.9	Connecticut	5.9
Alabama	9.8	Virginia	5.5
N. Carolina	9.3	Iowa	5.0
Kentucky	9.1	Arizona	4.8
Rhode Island	8.9	New York	4.8
Colorado	8.8	Indiana	4.6
Illinois	8.8	Wisconsin	4.5
Georgia	8.6	Oregon	4.4
Pennsylvania	8.3	Montana	4.2
S. Carolina	8.2	New Hampshire	4.0
West Virginia	8.1	Kansas	4.0
Arkansas	8.0	Nebraska	3.4
United States Regis- tration Area	8.0	Wyoming	3.2
Ohio	7.8	Minnesota	3.1
Tennessee	7.6	Maine	3.1
Indiana	7.5	N. Dakota	3.1
Maryland	7.4	Vermont	2.6
California	7.2	Washington	2.1

MICHIGAN DIPHTHERIA STUDY—1928

(All Cities over 10,000 Population)

Total Cases in State.....	3725
Case Rate 32.8 per 100,000 population.	
Total Deaths in State.....	385
Death Rate 8.6 per 100,000 population.	

Group 1—Cities with no cases and no deaths.

City	Population
Marquette	12,000
Traverse City	10,000

Group 2—Cities with no deaths.

City	Population	Cases
Grand Rapids	164,000	31
Jackson	63,000	1
Ann Arbor	19,000	4
Ironwood	15,000	2
Escanaba	13,000	6
Holland	12,000	1
Sault Ste Marie	12,000	6
Manroe	11,000	1
Alpena	11,000	1
Ispeming	10,000	7

Group 3—Cities with Case Rates Lower than Entire State

City	Case Rate per 100,000 Population	Death Rate per 100,000 Population	Ratio No. of Reported Cases to Deaths
State	82	8	.....
Adrian	30	7	4
Benton Harbor	32	6	5
Highland Park	33	4	7
Kalamazoo	33	3	9
Muskegon	45	8	5
Port Huron	51	12	4
Flint	59	3	17
Battle Creek	69	2	33
Saginaw	80	4	20

Group 4—Cities with Case Rates Higher than Entire State

City	Case Rate per 100,000 Population	Death Rate per 100,000 Population	Ratio No. of Reported Cases to Deaths
State	82	8	.....
Pontiac	91	8	11
Hamtramck	92	8	11
River Rouge	109	6	16
Lansing	125	1	100
Wyandotte	135	27	5
Detroit	144	16	8
Owosso	218	13	16
Muskegon Heights	250	18	13
Iron Mountain	290	24	12

MOUTH HYGIENE IN 1928

The activities of the Bureau of Mouth Hygiene during the past year have followed much the same lines as previously because the results seemed to prove these to be most productive.

The director has tried to keep in mind that mouth hygiene is just one phase of health service and needs to be correlated to the whole.

The aim has been to supply material and programs for health workers and others in any community in Michigan; to use as far as possible any existing agencies in promoting mouth hygiene; to create in the community an interest in improving mouth conditions; and to give as much time as possible to field work because of the great demand for efficiency of this type of service.

In field work the director goes only upon request because he cannot even meet all the requests.

On the field he tries to do three things: Demonstrate actual conditions by examination with mouth mirror and explorer of some group of children with community leaders and health workers before organizations, preferably parent-teacher groups and normal schools.

Points stressed in promoting mouth hygiene are: Nutrition, early dental attention and cleanliness.

A typical example of results is shown in the following letter voluntarily received from the school nurse in Munising. On September 25, 1928, the director reached Munising for the first and only time. Next morning he examined a second grade in a

parochial school with leaders of school present; 52 were examined, only one not needing fillings, extractions, or both, 30 with cavities in permanent teeth, 38 with infected or putrescent teeth and only two who had any dental filling. At noon he lunched with the local dentists. In the afternoon he examined second and third grades in the public school with leaders present; 59 were examined, not one that did not need filling or extraction or both, 27 with cavities in permanent teeth, 42 with infected or putrescent teeth, five with any fillings. The director also spoke briefly to a hygiene class in high school and in the evening addressed the Parent-Teacher society and immediately after caught a train to Marquette.

"Munsing Township Schools,
H. A. Wood, Superintendent,
Munsing, Michigan.

April 15, 1929.

"Dear Dr. Davis:—

"Perhaps you would be interested to know that the work in mouth hygiene accomplished this year has been an interesting project. The teachers, parents, and children have co-operated so well that we feel that it has been very much worth while.

"After your visit last fall, those who were at the examination of the children and at the lecture, became interested in the work. The teachers introduced the Dental Honor Rolls in the three rooms inspected, and several children had corrections made.

"In January health lessons on mouth hygiene were given in all our grade rooms in the township. The chore card on brushing teeth, printed by the Michigan Tuberculosis Association, was used in the primary rooms. This part was emphasized in the morning inspection. During that time many children bought toothbrushes. In the upper grades, diet was stressed particularly, although even the younger children were given some instruction in this phase of the work. Dental Honor Rolls were placed in each grade room. Mr. Wood ordered some pins in red and white with the slogan GOOD TEETH printed on them. Each child is given a pin to wear when his name goes on the roll.

"The children are now keenly interested. We have only two dentists here, and they have been kept very busy. Appointments have had to be made weeks in advance. The council of the Parent-Teacher Association was told of the need of this work among our indigent children. They have undertaken to care for as many as their finances will permit.

"The names of those on the Honor Roll were placed in our local paper the latter part of February. The number then was 54. We now have a total of 90 children who have had all necessary dental work done for the present. Many are having corrections made. We are hoping to have at least one room 100 per cent this year. The necessity for at least a part-time dentist is becoming apparent to all who are interested in our schools. Judge R. W. Nebel recommended this to our Lincoln Parent-Teacher Association at their April meeting.

"One of the difficulties in the way is not the lack of parental co-operation but the lack of understanding of the need. Now that the parents are beginning to understand that baby teeth are important, we are having corrections made. But this is the biggest obstacle. In March I inspected one of the kindergarten groups again and found 17 out of 40 with "gum boils." One girl in the Junior High School who was sent by the Council to have her teeth cared for, will have to have a plate. Of course, this work could not be done, as the funds were not sufficient.

"Now, however, that the Parent-Teacher Associations are so interested in the work, we feel that through increased knowledge of the importance of this factor in the child's health, much will be accomplished. Several of the teachers have spoken of the increase in interest in school work and ability to do it, by the improvement in the child's physical condition after dental corrections. The finest result, however, is the real delight the children have in trying to secure a clean mouth with as perfect a set of teeth as possible.

"Yours sincerely,

Dorothy Hill, R. N., School Nurses."

BUREAU OF MOUTH HYGIENE—STATISTICAL REPORT

September 1, 1928 to May 28, 1929

Number of places visited	188
Addresses given (adult 73, school 66, professional societies 22)	161
Conferences outside office	139
Examination clinics	156
Number examined	7,567
Leaflets:—	
Requests	1,118
Distributed	141,450
School blanks:—	
Requests	148
Distributed	66,191

An interesting development this year has been a series of health lectures to 38 County and State Normals. This has taken nearly two months of the director's time.

During the year the director has been invited to address meetings outside the state as follows: Joint meeting of American Child Health Association and American Public Health Association, Chicago, October 18, 1928, "Dental Health Education Material from the Point of View of Accuracy and Balance"; Chicago Dental Society Annual Meeting, January 15, 1929, "Taking Inventory of Our Mouth Hygiene Progress"; Massachusetts Dental Health Workers, Boston, May 6, 1929, "Dental Health Education"; Massachusetts State Dental Society, May 7, 1929, "The Dentist's Responsibility to the Child", (open meeting), "The Teeth in Relation to Health and Disease".

William R. Davis, D.D.S., Director,
Bureau of Mouth Hygiene.

DIPHTHERIA IN THE PRE-SCHOOL AGE

Analysis of the diphtheria deaths in Michigan shows clearly that the pre-

school group is now the important factor in the immunization program. To bring this fact concretely to the attention of physicians, and to aid them in reaching the children of pre-school age in their own practice, a system of monthly reminders has been inaugurated in the department.

Each month, letters are sent to all physicians who reported births nine months before. The names of the children are listed in the letter, and the suggestion is made that since they are nine months of age it is time they were protected from diphtheria by the use of toxin-antitoxin. Material for the immunization is offered without charge. If the physician requests it, letters are sent directly to the parents of these children emphasizing the especial danger from diphtheria during the pre-school age and the value of toxin-antitoxin, and urging that they take the children to their physician for immunization. Parents' letters are sent only when the physician specifically asks it. Where births are reported by midwives the reminding letters are sent to the health officer if he is a physician. In communities where there is a lay health officer no action is taken.

Judging from the prompt and cordial response already received from physicians and the number of requests for toxin-antitoxin, the plan will be a success. It will at least aid in reaching an important group through the proper medium—the family physician.

THE KAHN TEST AT COPENHAGEN

The attached table was taken from the official report of the Copenhagen Serological Conference which was held in June, 1928. Dr. Kahn from the Michigan Department of Health performed the tests himself at the conference, with the results that the Kahn test showed the highest percentage of positive results with no false positives.

What is just as interesting is the fact that it showed a fewer number of doubtful reactions. The serums that were examined by the various workers at Copenhagen were sent from Paris and compilation was not made until each group of serums had been finished by all competitors. There were several more competitors, but the three tests as indicated in the table gave the nearest approach to theoretically correct results.

C. C. Y.

SUMMARY OF RESULTS WITH THREE SEROLOGICAL
DIAGNOSTIC METHODS ON A GROUP OF
SYPHILITICS AND A GROUP OF
NON-SYPHILITICS

(From official report of the Copenhagen Serological Conference, held June, 1928, under the auspices of the League of Nations Health Committee).

Syphilitics							
Method	Total No. Tests	+			Summary		
		+	+	+	Positive	Doubtful	Negative
Vernes flocculation test	434	174	62	198	40%	14%	46%
Harrison-Wyler (modification of Bordet-Wassermann)	502	210	78	214	42%	15%	43%
Kahn Precipitation test	499	305	33	151	61%	7%	32%
Nonsyphilitics							
Method	Total No. Tests	+			Summary		
		+	+	+	Positive	Doubtful	Negative
Vernes flocculation test	354	2	36	316	0.5%	10.2%	89.3%
Harrison-Wyler (modification of Bordet-Wassermann)	435	0	12	423	0%	2.8%	97.2%
Kahn Precipitation test	434	0	5	429	0%	1%	99%

A NEW COUNTY HEALTH DEPARTMENT

Genesee county entered the ranks of Michigan counties having full-time health departments on May 16, when its newly organized unit began functioning. The county board of supervisors authorized its establishment at their April meeting.

Headquarters of the department is at the court house in Flint. The staff consists of the commissioner, Dr. L. M. Coulter, two public health nurses, Joyce Smale and Margaret Penoyer, and an office assistant.

John R. C. Carter, M. D., joined the staff of the Bureau of Epidemiology on June first. Dr. Carter will give the major part of his attention to the development of county health department practice.

PREVALENCE OF DISEASE

	May Report			
	Cases Reported			
	April 1929	May 1929	May 1928	Average 5 yrs.
Pneumonia	772	727	1,127	643
Tuberculosis	500	688	560	565
Typhoid Fever	26	19	17	30
Diphtheria	341	393	323	349
Whooping Cough	1,261	1,157	619	613
Scarlet Fever	2,144	2,044	1,176	1,201
Measles	3,750	4,271	4,769	3,641
Smallpox	264	223	88	235
Meningitis	316	367	23	14
Polio-myelitis	4	4	4	3
Syphilis	1,718	1,415	1,028	1,145
Gonorrhea	979	719	376	676
Chancroid	23	27	5	5

CONDENSED MONTHLY REPORT

May, 1929

Michigan Department of Health Laboratories

	+	-	+ -	Total
LANSING LABORATORY—				
Throat Swabs for Diphtheria				1281
Diagnosis	29	529		
Release	68	133		
Carrier	8	494		
Virulence Tests	9	11		
Throat Swabs for Hemolytic Streptococci				694
Diagnosis	152	179		
Carrier	40	318		
Throat Swabs for Vincent's	45	510		555
Syphilis				9693
Kahn	1596	7969	124	
Wassermann	1	1		
Darkfield	2			
Examination for Gonococci	182	1493		1675
B. Tuberculosis				582
Sputum	68	470		
Animal Inoculations	6	38		
Typhoid				258
Feces	9	77		
Blood Cultures		76		
Widals	7	75		
Urine	3	11		
B. Abortus	6	73		79
Dysentery	1	38		39
Intestinal Parasites				24
Transudates and Exudates				766
Blood Examinations (not classified)				195
Urine Examinations (not classified)				280
Water and Sewage Examinations				831
Milk Examinations				112
Toxicological Examinations				1
Autogenous Vaccines				1
Supplementary Examinations				298
Unclassified Examinations				900
Total for the Month				18259
Cumulative total (fiscal year)				169749
Increase over this month last year				4116
HOUGHTON LABORATORY—				
Examinations made — Total for the Month				2029
Cumulative Total (fiscal year)				17541
Increase over this month last year				3
GRAND RAPIDS LABORATORY—				
Examinations made — Total for the Month				7073
Cumulative Total (fiscal year)				73421
Decrease over this month last year				538
Typhoid Vaccine Distributed, c. c.				2608
Diphtheria Antitoxin Distributed, units				26855000
Diphtheria Toxin Antitoxin Distributed, c. c.				34240
Silver Nitrate Ampules Distributed				6144
Scarlet Fever Antitoxin Distributed, pkgs.				59
Scarlet Fever Toxin Dick Test Distributed				49
Scarlet Fever Toxin Immunization Distributed				2776
Smallpox Vaccine Distributed, points				11935
Bacteriophage Distributed, c.c.				1232

THE JOURNAL

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JULY, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

POST-GRADUATE CLINICS

The post-graduate program as announced in the April number of this Journal and the program of the second annual post-graduate clinics which appeared in the June number, have proved a real success, not only in the way of increasing popularity with the medical profession as manifest by the attendance, but in the enthusiasm and interest shown as well.

This post-graduate movement inaugurated sometime ago is filling a need in this state in the way of providing short intensive courses for many of us almost at our own door. There is an old saying that the best way to learn is to teach. The presence of a small group of earnest physicians is a stimulus to the instructor so that we have an interaction of minds so to speak.

The intensive two-day clinic which took

place on the 18th and 19th of June provided a somewhat varied assortment of subjects both medical and surgical. Each clinician was a master in his particular field. As announced in the program, the sum total of effort put forth in the latter part of May and June is for professional betterment, and after all, when it comes to establishing right relations with the public, probably it cannot be done to better advantage than to seek higher qualifications in the art and practice of our profession.

OSTEOPATH BILL VETOED

The June number of this Journal contained news to the effect that the Governor had vetoed the osteopath bill. Governor Green has been placed in positions since his gubernatorial term that call for a great deal of courage and independence on the part of any one man. When both Houses of the Legislature agree on a certain bill or piece of legislation, it takes a lot of courage to oppose the group action of men who are the representatives of the people. And yet the very fact that the power of veto rests with the Governor, who is also the people's choice, presupposes that he must at times exercise this prerogative as a check to ill-advised or ill-considered legislation. In vetoing the osteopathic bill the Governor has exercised that right, in the interest of the people of Michigan.

For several decades strenuous efforts have been put forth to advance the standards of medical education in this state and to eliminate the unfit. This editorial is not a criticism of the osteopath, far from it. An osteopath is a specialist and so far as his specialty can contribute to public welfare it has a right to exist. When, however, the osteopath seeks to exploit the whole field of medicine, in the interest of public safety it is time to call a halt. The enactment of such a law as proposed would introduce two standards of medical practice which would in itself be an anomaly, that circumstances do not justify.

The Governor deserves the highest commendation in this act of conservation of the medical standards of the state.

THE NEWER MEDICAL VIEWPOINT

The paper by Dr. Lewellys F. Barker entitled "The Etiological Approach to the Study of Disease," which appears in this number of The Journal is very timely; it is one that will appeal to every one engaged in the practice of medicine and surgery and allied specialties. We have first a philosophic discussion of the word eti-

ology. The writer says that descriptive science is made up of the mental constructions based upon sense - impressions. Causal thinking depends upon the construction of analogies of regular sequences of these sense-impressions. However, this does not always hold, hence the fallacy in the phrase *post hoc ergo propter hoc*. He cites examples of "causal" thinking, also examples illustrating the inadequacy of it. The other mode of reasoning is designated "conditional" thinking. Any process in nature is dependent upon a large number of conditions, never upon a single one. In other words, it is wrong to single out one condition and assume it to be the sole cause of a process. He speaks of a number of writers who urge the abandonment of "causal" and the adoption of "conditional thinking," with whom, however, he disagrees. He quotes approvingly Fischer who said, "If there were only 'conditional thinking' in existence. 'causal thinking' would have to be discovered, for it is essential not only for theory but for practice." The importance of causal thinking appears in the fact that it presupposes an evaluation from the standpoint of the enquirer of the relative importance of the conditions concerned in the origin of any given process or event. Dr. Barker gives several illustrative examples. Both "causal" and "conditional" thinking have their place in the reasoning process; the former acting in a selective way in regard to the relative importance of the various conditions.

* * *

Dr. Barker goes on to define health and disease and emphasizes the fact that the terms are abstractions. The adjectives derived from them describe certain states in persons. His conclusion here is contained in the extract which appears on the cover of this Journal.

* * *

Going on then to discuss external and internal causes of disease, the essayist says that the internal cause is seen when we have inadequate response to a normal environment; external cause is that which appears when the inadequate response lies in the surroundings.

Dr. Barker introduces a phase of discussion in his paper that has received a great deal of attention from clinicians of late. Every human being develops from a zygote. The developed organism or phenotype consists of two fundamentally different parts. First the genotype which is derived from the two parents and consists of inherited potentialities; and secondly

the substance that converts inherited potentialities into realities. The second is known as paratype. The whole make up of the realized organism, that is, the genotype and paratype, are spoken of as the human constitution. It will be seen, then that we have bio-variants since no two phenotypes are exactly alike. In other words there are no two genotypic patterns exposed to the same environment. As examples of morphological personal variants the author cites habitus asthenicus with its special disposition to tuberculosis, and on the other hand the habitus pyknicus with its special disposition to chronic hypertension, to obesity and to manic-depressive psychosis.

By studying the subject from this viewpoint we are enabled to investigate the causes and pre-disposing conditions of disease. "Medical research and medical practice" says the writer, "are being profoundly modified by the application of new methods of study of human phenotypes and their modes of response." So great, however, is the tendency to stress the genotypic (hereditary) factors that there is a disposition to relegate the paratype to the background, except the case of unmistakable infection or parasitic invasion.

According to Dr. Barker the physician of today is compelled to acquaint himself with the psychic and social history as well as the physical history of the patient. The practitioner finds himself more or less handicapped without some knowledge of the motivations of human conduct, of the desires that men strive to gratify and of the social conflicts that may arise during the struggle for the satisfaction of these desires. It is therefore a duty of medical men to study the psycho-physical unit as a whole. This is not an attempt to abstract or to summarize Dr. Barker's paper. However, it is seldom a medical Journal has the opportunity of printing a paper with such a wide appeal. Attention is called also to the other interesting contributions of a more specialized character which appear in this number of the Journal.

LEGAL RESPONSIBILITY OF "ATTENDING" PHYSICIANS

Considering the large number of members of the medical profession who are connected with hospitals in the capacity of attending physicians, the individual liability of physicians for acts committed in hospitals is a matter demanding clear thinking. There is a current opinion to the effect that physicians do not require to

carry protective insurance covering cases which they treat in hospitals. Nothing could be further from the truth.

Physicians who are on service even in free clinics should carry individual insurance; even a doctor serving a hospital as a part-time roentgenologist for which he receives a salary from the hospital should not depend upon the fact that he is to a certain extent an employe of the hospital, to protect him in the event of an accident to a patient or a bad result in treatment.

According to an opinion* by Stryker, Counsel for the Medical Society of the State of New York, "There is no relation of master and servant, or principal and agent, existing between a hospital and the resident or visiting physicians connected with the hospital. The law regards the physicians as independent contractors, personally liable for their own wrongs. In a leading case in the Court of Appeals of the State of New York, in discussing this relationship it was said:

"The hospital does not undertake to act through them (the physicians), but merely to procure them to act upon their own responsibility. . . And so there is no such relation between the corporation (the hospital) and the physicians and surgeons who give their services at the hospital. It is true the corporation has power to dismiss them; but it has this power not because they are its servants, but because of its control of the hospital where their services are rendered. . . The wrong was not that of the hospital; it was that of physicians, who were not the defendant's servants, but were pursuing an independent calling, a profession sanctioned by a solemn oath, and safeguarded by stringent penalties. If, in serving their patient, they violated her commands, the responsibility is not the defendant's (the hospital); it is theirs. There is no distinction in that respect between the visiting and the resident physicians."

We have referred this opinion to Dr. F. B. Tibbals who is Chairman of the Medico-Legal Committee of the Michigan State Medical Society, and have received the following reply which gives clearly the situation as it obtains in the State of Michigan. "Regarding the individual liability of physicians for acts committed in hospitals, let me say that under the Michigan law, a physician is liable for his acts wherever committed. I do not think our Michigan hospitals, except perhaps the private hospitals, carry liability insurance, for all those incorporated as charitable, not for

private gain hospitals, are exempt from suits by patients. The internes and nurses, however, employed by and furnished by the charitable hospitals for assistance of physicians attending patients in these hospitals, or operating upon patients in these hospitals, are the agents of the hospitals and not of the doctors, hence when a foreign body is left in the wound, hypodermic needle broken off under the skin, or a hot water bag applied too hot, and it can be clearly shown that the blame is on the nurse or interne and not on the doctor, the doctor cannot be held legally responsible. Aside from these exceptions however, the doctor may be held blameworthy for all his acts occurring in hospitals."

X-RAY FILMS

We understand that considerable attention has been devoted to safety in the storage of X-ray films, particularly in the hospitals of this state. In many hospitals the provision is about as satisfactory as ingenuity can devise. The storage of films in private offices is another matter, and the advice we have to contribute is to reduce the quantity of used films to the minimum. Films constituting gastrointestinal series have very little value so far as the patient is concerned after two years, particularly if a careful reading has been made at the time and filed away. Films made of the chest are more valuable and in some cases should be retained over a term of years, for sake of comparison from time to time. Films made for the sake of determining bone injury have a medico-legal value whether the findings are positive or negative. They should be retained until released by the statute of limitations which renders them of no further value in damage suits. In the case of children this period is two years after the child has become of age. Then there is another class of film that which registers some rare or interesting pathology or abnormality. This class has a personal value for the roentgenologist or surgeon and internist. The amount of film material which might be eliminated from filing cabinets every two years is very large and its disposal would aid not only in promoting safety but in economizing space as well.

Many photographers are wont to store negatives until a vast accumulation results. These are a source of danger in the case of fire. One prominent photographer has informed the writer since the Cleveland disaster that he has disposed of half a ton of old negatives. Such material increases

* Vol. 29, No. 9, New York State Journal of Medicine.

the fire hazard in down-town office buildings in which photograph studios are located—a danger that is apt to be overlooked. Elsewhere in this number of the Journal appear definite directions for storing films. This information is supplied by one of the largest film manufacturers in the world.

HOSPITAL CAMPAIGN A SUCCESS

The Grace Hospital, the Salvation Army and the Narcotic Educational Association, all of Detroit, launched a campaign from May 12th to the 24th for funds for the erection of a number of hospital units—nine structures in all. The fund sought was \$3,000,000; namely, \$1,850,000 to the Grace Hospital; \$1,000,000 to the Salvation Army, and \$150,000 to the Narcotic Educational Association.

Deserving of special comment is the manner in which this campaign was received by the public. Probably no similar venture within recent years was achieved with less effort. By May 24th, the sum was over subscribed. Those who were immediately concerned with the solicitation of funds found their tasks particularly pleasant. There are good reasons. In the first place the Salvation Army, regardless of denomination or creed, from its inception has had a strong appeal. The objective as announced by Dr. Warren L. Babcock of Grace Hospital of providing a hospital that would take care of people of moderate means at a price they could afford to pay, had likewise a strong appeal. It has been more or less a matter of wonderment among the laity why the cost of hospitalization should be so high when it is considered that the majority of hospitals are tax exempt and therefore at least semi-public institutions. The presentation of the hospital situation by the manager of Grace Hospital went a long way towards casting light upon the whole hospital situation. While Detroit is avowedly a leader in industry it is still far behind in the matter of hospital accommodation, all the hospitals having had waiting lists during the past year.

Consideration for the respected citizen of moderate means, in the erection of these hospital units, has been well received by the medical profession of Wayne County, than whom no one is in a better position to judge the merits of the case. Grace Hospital, the Salvation Army and the Narcotic Educational Association are to be congratulated on the outcome of this building campaign.

DOC BROWNELL AND JIM MUNRO

MALAR BONE, M. D.

"Why don't you pay me what you owe,"
Said Doc Brownell to Jim Munro,
"You've sold your wheat and corn and rye
"And I've got gas and clothes and food to buy."
"Jest take yore bill along to —ell."
Said Jim Munro to Doc Brownell,
"My kids is well and so's my wife.
"I never felt better in all my life,"
Said Jim as he puffed on an old cob pipe
And munched an apple not quite ripe.
Then old Doc smiled, his eyes aglow,
And said, very kindly and also slow:
"Let's not quarrel in all this heat
"Just come inside, I'll stand the treat."
Then to the soda squirt he said:
"Two bottle off the ice, labels all red,
"For a coat of arms the devil rampant,
"Jim will sure drink all that I can't."
All his bottle and most of Doc's went down Jim's
throat

And he smacked and grunted like a red haired
shoat.

"Thanks Doc," he said, "I was thirsty and hot
"But that thar fiz teched the spot."
Jim went home, unhitched his team, fed the stock,
Ate his supper and went to bed at eight o'clock.
About nine that night Doc's telephone rang.
As he went to the phone he almost sang,
Jim's wife he knew was on the line
And the plans he'd made were coming on fine.
"Jim's groaning with pain and tossing about,
"Please Doctor, won't you come right out?"
Of course Doc went, wanted to go,
But he couldn't drive straight for laughing so.
He got there soon and went inside.
Where the doors and windows were open wide,
Where an unpleasant odor filled the room
And a tallow candle just pierced the gloom,
Lay stretched on a bed what was left of Jim,
With his face gray and wan in the light that was
dim.

Doc felt his pulse and looked him carefully over
Then said in a voice both sad and sober:
"Poor old Jim, you were once my friend,
"I hate to see you approaching the end.
"Four hours ago you were hearty and well
"But now—the Lord alone can tell.
"I know where you will be when you are dead,
"So I'll just send my bill right on ahead."
Jim looked scared and could hardly speak,
His big strong voice had grown so weak.
"Please save me Doc, you shore know how.
"I'll pay yore bill, I'll pay it now.
"Git my pants, Ma, and pay his bill
"Give him a dollar for ev'ry pill."
Doc gave him some drops that helped him a heap
And told him to lie still and he'd soon go to sleep.
He put on his hat and started for town,
But stopped at the door and said with a frown:
"Bear this in mind—when I ask you to pay
"Think very carefully what you should say.
"That fiz you drank, and those green apples, too,
"Were mighty good for me, but awful bad for
you."

THE EDITOR'S EASY CHAIR

GLORIA VICTIS

Dr. Ales Hrdlicka, American anthropologist connected with the United States National Museum, has undertaken to prove that eminent men of science are men of sound bodies as well as sound minds, contrary to the belief once held that their minds were occasionally housed in weak bodies. In other words each has *mentem sanum in corpore sano*. He made physical measurements on 100 members of the National Academy of Science. If he were to include all men of science who have earned a place on the beadrole of fame his findings would indeed be more interesting. We are, however, inclined to discount findings based on the study of only one hundred cases.

Instead of finding strong minds in weak bodies, Dr. Hrdlicka declared that he found strong minds linked with strong constitutions. The head, hence presumably the brain of the Academy members, is on the average larger than the head of the average American. Intensive mental work evidently does not tend toward a shortening of the life of the worker, as concluded from the ages of the scientists studied.

Parenthetically, an item of news appears as I write to the effect that Dr. Daniel Smith Lamb autopsician of the United States army died at the advanced age of eighty-five years. Lamb had performed autopsies on President Garfield and on Garfield's assassin. In his last will and testament, Dr. Lamb declared it his wish that a careful post mortem examination be made of his body by some competent person, naming Dr. Hrdlicka as his choice. To assist in obtaining accurate information Dr. Lamb related his health history. As a child he had sore throat and "colds" and varioloid measles. During his adult life he had typhoid, acute rheumatism, labyrinthine deafness, pneumonia five times, influenza, chronic laryngitis and chronic ulcer of the nasal septum.

This is all very interesting. One cannot help calling to mind also the work of such men as Steinmetz, Darwin, Joseph Priestly, Herbert Spencer, Trudeau, Bichat, Laennec, John Hunter, William Harvey and Sydenham. Sydenham suffered from gout thirty-four years and wrote an unsurpassed description of its symptoms, and if we might go outside the domain of science, Kant the philosopher, Scott, Byron, DeQuincey, Stevenson, Thoreau all suffered greater or less physical discomfort. The victim of gout, even the genius, is apt to be eccentric and irascible. Biographers mention this disease quite frequently. It carried with it no approbrium other than that the offender was probably a high liver.

Speaking of gout, Osler claimed it to be somewhat common among persons of great mental or

bodily vigor and mentioned such distinguished members of the medical profession as Jerome Cardan, Italian mathematician and professor of medicine at Padua in the sixteenth century, and the great English Hippocrates Sydenham. He disagreed with Sydenham, however, that "more wise men than fools are victims of gout."

The list of suffering genius might be extended indefinitely. All suffered physical handicaps which they capitalized, or, as Dr. Charles Mayo once said, they denied adversity its toll and used misfortune as a stepping stone. They not only made an impression on their own generation but on succeeding generations as well. They were not of an age but of all time. We are reminded of Emerson's essay on Compensation.

Havelock Ellis in an interesting study of British genius devotes a chapter to pathology in which he claims that, "at least ten per cent of our eminent British persons suffered from a marked degree of ill health, amounting to more than minor discomfort during the years of their active lives." Some of them, notably Darwin, were so badly afflicted as to be unable to work for more than two to three hours at a time.

Not that disease ever produced genius; far from it.

The psychology of the consumptive is especially interesting. It is summed up in the phrase *spes phthisica*. There is a mental exaltation which disposes such persons to form vast plans and to endeavour to carry them out with feverish activity. In literature Robert Louis Stevenson is a good example. His stories are comparatively short but vigorous in their conception. The consumptive is characterized by a restless versatility though his genius is something of the feminine order. Havelock Ellis has shown that at least forty personages in Great Britain who are universally recognized as geniuses were afflicted with tuberculosis.

Many individuals who afterwards became eminent were delicate during their childhood. Among the number might be mentioned Hobbes and Locke the philosophers, Newton, Priestly who discovered oxygen, Keats and Charles Wesley. Elizabeth Barrett Browning might also be mentioned as a borderline tuberculosis patient. Sir Wilfrid Laurier, Late Premier of Canada who died a septugenarian, had pulmonary hemorrhages during his early manhood. Trudeau's career is too well known to require comment. Thomas Masson, American author, and editor also gave a history of pulmonary hemorrhages. Many such persons die of old age after long useful lives, justifying Oliver Wendell Holmes' contention that if one wished to live to an advanced age he should be a chronic invalid. The poet Goethe has said, "By appointed hours we enter into life, our days are numbered which make us ripe to see the light, but of the duration of our life there is no law; the weakest thread will sometimes spin itself to unexpected length while the strongest is suddenly cut asunder by the scissors of the fates."

FILM FILING AND STORING

Eastman *Dupli-Tized* X-ray films are now furnished coated on two types of base—(1) cellulose nitrate base, which was the only type available originally and (2) cellulose acetate, this latter film being known as *Safety* film.

NOTE—These recommendations and instructions may be followed by users of the Agfa films.

Eastman *Safety Dupli-Tized* X-ray films present no greater fire risk than so many paper records and may be filed and stored in any convenient manner. Cellulose nitrate films present a certain amount of fire risk which should be provided for.

The following recommendations apply to cellu-

lose nitrate films only and represent this company's view as to the proper precautions for minimizing fire danger from these films.

RECOMMENDATIONS FOR HANDLING AND STORING X-RAY FILMS

(Cellulose Nitrate Base)

General Suggestions:

(1) In all rooms where X-ray films are stocked, handled or filed, smoking should be strictly prohibited and conspicuous "NO SMOKING" signs posted.

(2) A metal can (preferably with spring hinged cover) should be provided for all waste negative and film scrap, and at no time should these be permitted to accumulate and lie around on tables, benches or floor.

(3) It is best, both for the matter of freshness of films and reducing fire hazard, that the stock of unexposed films should be kept at a minimum—the actual quantity depending on the ease of receiving fresh supplies from the dealer or distributor. Such stock should be kept in a cool, dry place out of the way of ordinary room traffic, in a metal box or can. A lead-lined metal box or can is suggested, as this also prevents damage by X-rays.

(4) In rooms where films are filed or handled there should be no flames or any other than standard electrical fixtures. All open lamp bulbs should be protected from breakage by suitable guards. A hand fire-extinguisher should be in each room where films are handled. Any of the standard approved portable 2½ gallon extinguishers will be satisfactory. Darkroom and other doors should be arranged so as to make egress from such rooms easy. It is also desirable, if possible, to have such rooms protected by automatic sprinklers.

(5) Film negatives should be filed as soon as possible in heavy manila envelopes, either singly or by case, and the filing of these so arranged that it is convenient from time to time to weed out useless negatives. The storage of film negatives in bulk without enclosure should be prohibited, and in all places where films are handled or stored there should be no storage of other inflammable materials and no litter or accumulation of waste paper.

(6) Illuminators should be so designed that the diffusing glass is not hot to the touch and there should be no unnecessary display of film negatives in lighted illuminators. Negatives set up for viewing should be confined to those actually being inspected.

(7) If it is necessary to keep an active file of films for a current period of about a week in the actual X-ray room, these should be kept in a metal container. Such a file should be limited to about 50 pounds of films.

(8) Films should not be stored in the basement of any establishment.

SUGGESTIONS FOR FILING BULK STOCK OF FILM NEGATIVES

(1) Where it is necessary to keep the accumulated results of X-ray examinations for a period of months or years, it is obviously necessary to take certain further precautions to reduce fire hazard. In the case of hospitals, where it is usually possible to secure additional space for such a purpose, a suitable room should be set aside for an exclusive and permanent bulk file of all X-ray negatives. Such a room should preferably be located at the top of the building and

be of fire-resistive construction. Most modern hospitals have small rooms which could be made into virtually fireproof vaults by a few simple changes. There are only four basic requirements that should be satisfied.

1. The room should be of fire-resistance construction.
2. The room must have a direct outlet to the outer air.
3. There should be a Class B, self-closing fire door at communication to building proper.
4. The room should be additionally protected by automatic sprinkler heads operated from an adequate water supply.

As regards the vent opening in the room, this may be kept covered against the weather by glass or metal, but if such a protective device is used it should be arranged in a sash or so hinged as to open automatically in case of fire. This can be very easily arranged. If the room is not located on the top floor it is desirable in most cases to run a metal vent pipe from the outlet to the roof. The exact size of the vent depends upon the number of pounds of negatives stored and can be determined from the basic requirements that for each 1,000 pounds of film stock there should be 140 square inches of vent. Thus

A circular opening of 13½" diameter for 1,000 lbs.
A circular opening of 9½" diameter for 500 lbs.
A circular opening of 6¾" diameter for 250 lbs.

As a guide in figuring poundage of stock the following table is useful:

1,000—14x17 negatives weigh approximately 118 lbs.
1,000—10x12 negatives weigh approximately 60 lbs.
1,000—8x10 negatives weigh approximately 40 lbs.
(Other sizes in proportion to area)

Relative to sprinkler protection; if there is no existing independent sprinkler water supply available, it will in a great many cases be acceptable to attach the film room sprinkler to the existing house water supply. There are of course standard specifications covering the necessary sizes of pipes, etc., for water supply to sprinklers, and the advice of someone in touch with these requirements should be obtained.

Where structural changes are necessary, or if it is desirable to partition off a small part of an existing room, the partition can be most satisfactorily made by using expanded metal lathing on wooden 2 x 4s. There should be about ¾ inch of good grade cement plaster on the metal lathing, and it will of course make a more satisfactory looking room and add to heat insulation by putting this plastered lathing on both the inside and outside of the room. If it is necessary to build a fire-resisting ceiling or floor, the same general type of construction will be satisfactory in most cases.

(2) In case such a room is not available and the quantity of films does not exceed a reasonable amount, reduction of the fire hazard is assured by the use of proper metal cabinets. These cabinets should be heat-insulated metal safes and be vented to the outside by metal pipes. Suitable safes of this type are available. The quantity of films which can be stored in such a manner is limited to 500 pounds in one safe and 1,000 pounds in two safes in any one room. If reduction of fire hazard only is desired, this type of safe will be generally suitable, but if it is also desirable to save as many negatives as possible in case of a fire, the addition of a suitable sprinkler head in the top of the cabinet is necessary. If a safe containing more than 250 pounds of

films is used it should be divided into two compartments—each separately vented. In case of a fire and the flooding of the contents from the sprinkler head, it is possible afterwards to reclaim most of the negatives, which will only be wet, by soaking them in water as soon as possible. The sprinkler protected safe is the preferable system. In these safes and also in the virtually fireproof rooms previously mentioned, any convenient filing arrangement of films in envelopes may be used.

These suggestions have been carried out by a number of users of X-ray films with excellent satisfaction both as to the matter of safety of negatives and relations with underwriter bodies, and the attendant cost has not been excessive.

As regards old negatives which are no longer necessary, and film scrap; these have a salvage value, this at the present time being 12 cents per pound. Such films should be returned to us at Rochester and the amount of salvage will be promptly forwarded. There are certain shipping conditions necessary to comply with and we will be glad to forward particulars to anyone interested.

As regards special needs of any particular hospital or X-ray laboratory in the matter of film storage, we will be glad to give specific assistance in each case if details of the conditions and number of negatives made in a given time are sent to us at Rochester.

It is strongly urged that these recommendations be adopted as fully as possible, for X-ray films, thus properly considered and handled, present very little risk and it is the desire of this company to co-operate in every possible way in eliminating any danger at all to hospitals in their use of such films. These suggestions are not to be construed as applying to films in other establishments where the general considerations of use and environment are substantially different from those applying to hospitals.—Science Service.

THE PHYSICIAN'S DUTY

(Calhoun County Medical Bulletin)

The duty of the Public Health Education committee is to keep the laity informed as to the advances being made in medical knowledge, to help safeguard the public health, and to wage unceasing war on quacks, charlatans and nostrum venders, and all those who abuse the people's confidence in the name of medicine.

The public don't care for propaganda having a commercial flavor—but are genuinely eager for the basic knowledge of health.

Whether it be the printed advertisement or the ballyhoo of radio advertising programs the people are disgusted with what is thrust at them as frank advertising, but will listen eagerly to what is told them by their physician. The greatest agency for the spread of health information is the doctor himself.

Each society member should take the pains to carefully explain the details of the more or less complicated health program of today. Good public speakers on health matters are rare, and we cannot depend on them to give to our patients what they need.

Every doctor should play the part of a health instructor and by so doing add something to the defense of modern medicine.

DEATHS

DR. STUART GALBRAITH

Dr. Stuart E. Galbraith, one of the most prominent members of the Oakland County Medical Association, died Sunday at 7 a. m. at his home, 86 Williams street.

Although he had been afflicted with diabetes for some time and for the past two months had given up active practice, his death, due to a stroke, came as an unexpected shock to a community where he was loved and respected by a wide circle of friends and acquaintances.

Dr. Galbraith was the leading exponent of the X-ray in Pontiac and for several years directed X-ray work in the Pontiac City Hospital, Oakland County Tuberculosis Hospital and St. Joseph Mercy Hospital.

Dr. Stuart E. Galbraith was born in Pontiac April 30, 1873, the son of Dr. Franklin B. Galbraith, an Oakland County citizen distinguished as a physician and surgeon.

The old Galbraith home, 17 East Huron street, long the center of the social life of early Pontiac, was later purchased by the Pontiac Board of Commerce and is now used by that civic organization.

Dr. Stuart E. Galbraith attended the Pontiac public schools, graduated from the Michigan Military Academy at Orchard Lake and entered the University of Michigan. There he completed the literary and medical courses, graduating from the latter in 1899.

Upon graduation he immediately began practice with his father in Pontiac until the latter's death in 1903, since which time the son had carried on the practice.

He was one of the first to become interested in the X-ray as a medium for diagnosing as well as treatment for disease and soon became so proficient that a large portion of work in this city was turned over to him by the medical fraternity. The volume of this work grew so large that within the past few years he had devoted to it almost all of his time.

Dr. Galbraith was of a retiring disposition, unlike his father who served in many public positions including army service as a surgeon, mayor of this city and member of the State Senate. Entirely devoted to his profession, he gave to it the best years of his life. He shunned publicity, was content to serve the public, loved his home life and family and had the respect and confidence of all.

He was married in 1907 to Mary Wisner, member of a family whose name is prominent in Michigan history. To this union was born three sons, Wisner and Stuart, Jr., now attending college, and Robert, at home.

Surviving are the widow, a sister, Mrs. James H. Harris of 45 Franklin boulevard, and the three sons.

The funeral is to be held from the home, 86 Williams street, Wednesday at 4 p. m., Rev. Bates Burd of All Saints Episcopal church officiating.

Dr. Galbraith was a member of the Delta Kappa Epsilon college fraternity, the Pontiac Rotary club and Pontiac Masonic bodies.—Pontiac "Press," June 17, 1929.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. Ferris N. Smith, Grand Rapids, returned June 10th from his annual European trip.

Dr. Guy L. Kiefer, Lansing, returned June 2nd after a two weeks' outing at Atlantic City.

Dr. B. R. Corbus, Grand Rapids, attended the Kentucky Derby at Louisville. No reports on winnings.

Dr. C. S. Gorsline, Battle Creek, spent two weeks in western sight seeing previous to the A. M. A. meeting in Portland.

The Committee on Civic and Industrial Relations, under the chairmanship of Dr. H. S. Collisi held a meeting in Detroit on June 19th.

Dr. G. L. LeFevre, Muskegon, President of the State Board of Registration, accompanied a golf foursome that played in and about New York City for the first week in June.

Dr. Frank A. Kelly, Detroit, will attend the annual meeting of the British Medical Association in Manchester July 22-26. He is on the program for opening the discussion on Spinal Anesthesia.

Jackson members, by reputation, will provide a most enjoyable time at our annual meeting in September. We urge a large attendance. See the August issue for program features.

Attention is called elsewhere in this issue to the program of the meeting of the Upper Peninsula Medical Society that is to be held in Ironwood in August. A cordial invitation is extended to all our members.

COMMUNICATIONS

Editor of The Journal of the Michigan State Medical Society:

An editorial writer in your June number is mistaken when he includes Christian Scientists among those who "have sought independent (licensing) boards" from our State Legislature. The Christian Scientists of Michigan have neither sought nor advocated any such legislation. The medical bills recently considered by the Legislature (Senate Bills 160 and 161) contained clauses which safeguarded the right of Christian Scientists to practice their religion, and we did not oppose these bills at any stage. Your contributor can obtain confirmation of this from Dr. Guy L. Kiefer. I warmly agree with what is said elsewhere in your June number about Dr. Kiefer's devotion and courtesy in his legislative activities.

Francis Lyster Jandron,
Committee on Publication for Michigan.

CO-ORDINATE MEDICAL AND DENTAL STUDIES IN NEW GROUP AT YALE

A new plan for bringing medicine and dentistry into closer relationship will be followed by a special study group at Yale University, President James R. Angell announced today. For the first time, medical specialists will make a comprehensive study of the teeth. The purpose of the group will be to create a group of medical specialists in teeth, just as there are medical specialists in diseases of other organs of the body.

Heretofore the teeth have been left to dentists, whose work is chiefly a technical procedure. In recent years the connection between teeth and various bodily ills, such as arthritis from infected teeth, has been recognized. Dentists have included more and more study of medicine in their professional schools. Still, they have not cared to encroach on the treatment of disease elsewhere in the body, which is the province of physicians, and similarly physicians have not gone far into the study of diseases of teeth, mouth and gums. The gap which has consequently occurred will be bridged by the new course at Yale.

The study group will be composed of physicians, surgeons, radiologists, bacteriologists, dentists and pathologists, with Dr. M. C. Winternitz, dean of the Yale School of Medicine, as chairman. The project has been made possible by a grant from the Rockefeller Foundation. Every year from two to four graduates of dental schools will be admitted to the School of Medicine to continue their medical studies and to work with the group studying dental diseases. The new group of specialists to be developed will not replace dentists but will be an additional corps of scientists studying and treating disease in human beings.—Science Service.

FOUR FACTORS RESPONSIBLE FOR TUBERCULOSIS DECLINE

Four factors responsible for the gratifying decline in the tuberculosis death rate during the last thirty years are the elevated standard of living, improved sanitary control, more adequate hospital facilities, and public health education, stated Dr. Louis I. Dublin, statistician of the Metropolitan Life Insurance Co., addressing the meeting in Atlantic City on May 29 of the National Tuberculosis Association. Continuation of the public health and social service activities responsible for much of the decline will probably further decrease the tuberculosis death rate to a negligible point, was the encouraging prophecy he put forward.

"I firmly believe," he said, "that by continuing and strengthening the same activities which have been directed against tuberculosis in the past, we can still further reduce the incidence of this disease and ultimately eliminate it from the list of significant causes of death."

The lowest tuberculosis death rate on record was chalked up for the year 1928. The decline since 1900 has been steady and ever-accelerating. Thirty years ago tuberculosis brought death to nearly two and a half times as many persons per 100,000 as now.

"In a single year 140,000 persons will survive who would have died from tuberculosis, had the rates of 1900 prevailed. . . . There is no indication that this state of affairs will change or that forces beyond the control of man will cause the mortality curve to swing upwards," Dr. Dublin stated.—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

ANNUAL MEETING

Our 1929 annual session will be held in Jackson on September 17-18 and 19. The House of Delegates will convene at 10:00 a. m. on the 17th. Hotel headquarters will be the Hayes hotel. Registration, exhibits and section meetings will be in the Elks Temple and the St. Paul's parish house, directly across the street from the Elks Temple. These two buildings are two blocks from the Hayes and Otsego hotels.

The August Journal will contain the preliminary program announcement and further details.

SCIENTIFIC EXHIBIT

The Council has directed that a Scientific Exhibit be arranged for our Annual Meeting. Dr. German, Pathologist of Blodgett Hospital, Grand Rapids, has kindly consented to assume the direction of this exhibit. Hospitals, clinics, pathologists and members are invited to participate and arrange with Dr. German for the exhibition of interesting specimens, X-ray films, laboratory experiments or studies or any clinical reports that are of merit.

Awards to the amount of \$200.00 will be made to the first, second and third most meritorious exhibits. We bespeak our members co-operation with Dr. German in order that this feature of our annual meeting may be of instructive value.

INVITATIONS FOR ANNUAL MEETINGS

The Council has directed that cities and county societies when extending invitations for the next annual meeting shall cause their invitations to be accompanied with a definite statement setting forth the available auditoriums, their rental price and the hotel accommodations. This information is important in order that the House of Delegates may be in better position to determine which invitation affords the necessary local facilities.

CLOSED SHOP

For the first time in seventeen years the office of the Secretary will be closed from

July 2nd to July 17th. During that period the Secretary will be in attendance at the American Medical Association Annual Session in Portland. The office help will be on their vacations. If your letters fail to receive prompt replies the above announcement will be explanatory.

MEMBERSHIP CARDS

The issuance of membership pocket cards was discontinued the first of the year. Certificates of membership were mailed to every member whose dues were remitted by county secretaries. This announcement is repeated to answer the many inquiries received relative to the pocket card.

MINUTES OF THE MEETING OF THE JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION HELD IN ANN ARBOR, MAY 20, 1929

1. Present: Doctors Jackson, Hirschman, Cabot, Huber, Henderson, MacCraken, Bruce, Griswold, Landers, Stapleton, Dempster, Lyons, Foster, Thompson, Olin, Sundwall, Biddle, Isaminger, and Mr. C. A. Fisher, Miss Emilie Sargent representing the Michigan State Nurses' Association; Miss Louise Kinney, representing the American Red Cross, and Miss Lera B. Curtis, representing the State Department of Public Instruction.

2. Reading the minutes of the previous meeting held in Ann Arbor, October 8, 1929, Mr. Henderson.

3. Report of Health Education Program for 1928-1929, Mr. Henderson. According to this report, the program as carried out by the Joint Committee for the year 1928-1929 was especially satisfactory as relating to the number of health lectures given and as to the co-operation extended by both the doctors and dentists of the state and the principals of the high schools under whose auspices the high school assembly programs have been conducted.

Mr. Henderson read a number of letters of appreciation and commendation from

high school principals, doctors, and others who have taken part in the program. On the whole, the reports received from high school principals and local committees have been exceptionally gratifying.

Following is a brief summary of the activities for the year:

Total number of doctors, dentists, and others taking part in the Health Education Program	151
Number of high schools in which assembly programs were conducted	92
Total number of different high school students who received instruction in these assembly programs	27,000
Total number of health lectures given in high schools, Parent-Teacher Associations, and other organizations	584
Total attendance upon health lectures throughout the state.....	153,612

4. Report on the health essay and poster contest, Mr. Fisher. Twenty-five per cent of the schools in which programs were given took part in the contest. A total of 87 essays and posters were submitted by high school students. The posters were judged by a committee consisting of Messrs. Bittinger and Fowler of the College of Architecture, and Dr. Hickey of the University Hospital, who awarded first, second, third and fourth honors as follows:

First, Dorothy Hoover, Adrian High school.

Second, Frances Drolet, eighth grade, Central Junior High school, Battle Creek.

Third, James Tunison, ninth grade, T. L. Handy Junior High school, Bay City.

Fourth, Noel Milham, Central High school, Kalamazoo.

The essays were graded by Messrs. Walter of the Rhetoric Department, and Haines of the Journalism Department, and Dr. Hickey of the University Hospital, honors being awarded as follows:

First, "Keys to Health," by Helen Ellis, Flint Central High school.

Second, "Facts About Our Friends, the Teeth," by Cecelia Peikert, St. Andrews school, Saginaw.

Third, "Infant Mortality," by Ann Hinzenga, Christian High school, Grand Rapids.

Fourth, "The Heart and Prevention of Its Ills," by Geraldine Kelly, St. Frederick High school, Pontiac.

Pursuant to action taken at the October 8, 1928, meeting of the joint committee, \$100 was authorized to be appropriated for prizes for the poster and essay contest, as follows: First prizes, \$20; second, \$15; third, \$10, and fourth, \$5.

On motion of Dr. Bruce, seconded by

Dr. Jackson, Mr. Fisher's report was accepted and the secretary was instructed to draw on the treasurer of the publicity fund for \$100 for the eight prizes to be given.

Mr. Fisher also raised the question of an appropriation for a bulletin, which publication should contain the cuts of the prize posters and copies of the prize essays, the names of the speakers taking part in the program, the schools under whose direction the contests were conducted, and a statement of the conditions governing next year's contest.

On motion of Dr. Jackson, seconded by Dr. Bruce, the committee was authorized to issue a bulletin, as per Mr. Fisher's suggestion, with the understanding that the cost of the bulletin should not exceed \$250. Dr. Bruce was instructed to find out as to whether or not the proposed bulletin could be issued as a reprint from the State Medical Journal.

5. Report on Extension Health Lectures for next year, Dr. Isaminger. This report included a brief account of the work covered in the ten counties in which high school assembly programs are now conducted. Dr. Isaminger informed the committee that eight new counties would be taken in next year, which territory he had already visited. Report accepted.

6. Report on lecture outlines for next year. Dr. Cabot expressed his approval of three of the lecture outlines submitted, but raised some questions as to the content of the lecture outline on Body Poisons. Doctors Jackson, Olin and Griswold supported Dr. Cabot's criticism of the lecture outline on Body Poisons. After some little discussion of the outline in question, Dr. Jackson moved that the members of the Joint Committee be requested to send criticisms and suggestions as to changes in the lecture outlines to the secretary within the next three weeks, with the understanding that the secretary would submit the suggestions to the standing committee on publicity. Motion prevailed.

7. Dr. A. C. Thompson of Detroit, who was asked by the secretary to prepare the Dental Lecture Outline for next year, gave some valuable suggestions, based on his experience in the Detroit schools, as to methods of preparation of outlines and their use in connection with school programs. Upon receipt of Dr. Thompson's outline, it will be submitted to the standing committee on Dental Lecture Outlines, this committee consisting of Doctors C. J.

Lyons and W. R. Davis, and the secretary of the joint committee.

8. Report on publicity. Dr. Bruce read a carefully prepared report which outlined the newspaper publicity program for the past year and which also contained valuable suggestions as to publicity activities in general as relating to the entire health education program. The report was accepted with the recommendation that it be published in the State Medical Journal.

9. The secretary read a communication from Dr. Ernst regarding proposed legislation on the subject of mental hygiene. Dr. Bruce moved that the matter be referred to the publicity committee. Motion prevailed.

10. It was moved and carried that the next meeting of the Joint Committee be held in Ann Arbor in October, 1929, subject to call by the secretary.

The meeting adjourned.

W. D. Anderson, Secretary.

May 27, 1929.

CONTRACEPTIVE ADVICE

An inquiry was received from a member relative to legal restrictions prohibiting him from imparting contraceptive advice to a patient. As search was made of the law we were quite startled when the following facts were uncovered.

National Laws: The United States mails, or any common carrier cannot be used to send information or material having to do with the control of conception directly or indirectly. There are five articles in the Criminal Code covering these prohibitions: 102, 211, 245, 305 and 312. These laws include scientific books, pamphlets, journals, illustrations, mechanical devices, drugs or prescriptions. There are no exceptions as to doctors.

State Laws: Can a doctor impart advice or instructions as to contraceptive methods? In fifteen states he cannot do so freely. In six states he can do so on certain exceptions. In twenty-eight states he can do so more or less unimpeded. State restrictions vary. In ten states no one may give contraceptive advice or tell where it may be obtained. Medical colleges and books are exempt in Nebraska, Pennsylvania and Missouri, and medical books in Kansas.

And so one finds in the statutes varying enactments that are most stringent. In our quest we were unable to uncover any specific reference to the subject in our Michigan laws. We then wrote the attor-

ney general and received the following reply:

Michigan State Medical Society,
1508 G. R. National Bank Bldg.,
Grand Rapids, Michigan.

Dr. F. C. Warnshuis, Secretary.

I desire to acknowledge receipt of your letter of May 24 relating to the subject of birth control.

I find that the only laws in this state which relate to that subject are Sections 15224 to 15226, inclusive, of the Compiled Laws of 1915. These sections relate to the giving of medicine for the purpose of producing an abortion.

Section 15512 of the Compiled Laws of 1915 prohibits the advertising in any manner of any medicine, drug, compound, appliance or any means whatever whereby women may be cured or relieved, or miscarriages or abortion produced.

Section 15524 of the Compiled Laws of 1915 prohibits a druggist or dealer from selling any drugs or medicine known to be designed and expressly prepared for producing an abortion, only upon the written prescription of an established practicing physician of the city, village or township in which the sale is made.

I understand, however, that there are federal statutes relating to the publishing of such information.

Very truly yours,

Wilber M. Brucker,

Attorney General.

By Emerson R. Boyles,

Deputy Attorney General.

Apparently our Michigan statutes are silent upon the subject so that Michigan doctors are only amenable to the federal laws which relate to the use of mails and common carriers.

ADVERTISEMENTS

Our members are requested to observe: Without the income received from our advertisers the present Journal would not be possible. Without advertisers, to continue to send you the present sized Journal it would be necessary to increase our dues four dollars per member. Income from advertisers means a bigger, better Journal with no increase in dues.

Advertisers are not paying for advertising space simply to furnish you the present Journal. They expect, and rightly so, a return upon their investment in the form of your business and patronage. This you owe to our advertisers. They merit and should have first call on your business. They should be the recipients of your orders.

If you are buying instruments from a firm that does not advertise in your Journal, you should discontinue doing so. Our instrument advertisers can serve you just as well, just as cheap and more reliably than can the non-advertiser. Your electrical equipment can be purchased from our electrical advertisers to better advan-

tage than from non-advertisers. The prescribing of drugs, preparations and foods advertised in our Journal will give you better results than those of other firms for we accept only approved preparations. Our institutional and hospital advertisers will serve you and your patients better than will non-advertised institutions or supply houses. You are urged to recognize these facts.

The point stressed is that you have an obligation and a duty that you owe to the advertisers who make your Journal possible. There is a pressing need that you discharge that obligation.

If a salesman calls on you ask him if his firm advertises in your Journal. If the answer is in the negative then withhold your order and give it to the salesman or firm that does use space in our advertising forms. In addition to this read our advertising pages each month. You will find many interesting free offers for samples, literature, etc. Ask for these samples and literature and tell them you saw their add in your Journal. If you haven't the time then tell your office girl or your wife to write for you. It is quite essential that our members recognize our advertisers, patronize them and reciprocate business with them. Your Journal solicits your assistance.

YE WHIRLING CHAIR

Our esteemed editor has instituted a new feature under the caption of the "Editor's Easy Chair." There is more of a difference of relativity in the Secretary's chair which is ever whirling, sans foot rest, slippers or pipe. May and June furnished plenty of whirls and some spiral glides.

The legislature wind-up created some intense situations with interviews, trips to Lansing, Detroit and Washington terminating with a deep sigh when the governor handed us that veto.

The four weeks post-graduate course and the two-day clinic in Detroit entailed a lot of correspondence to secure speakers and perfect local arrangements.

The Executive Committee held a prolonged session covering many important subjects.

Securing of auditoriums in Jackson and deciding on local arrangements for our annual meeting in September consumed more time. Incidentally the Jackson meeting is going to be an outstanding one. The Jackson members will be found to be most delightful hosts. Note the dates—September 17, 18, 19th.

All members who were delinquent in their 1929 dues received a letter reminding them how they could not afford to continue their delinquency.

Section Officers and Chairmen of Standing Committees were advised when their programs and reports were to be filed for publication.

Several flagrant violations of our medical practice laws were investigated and placed in the hands of state police.

Preparation of programs and arrangements for our summer Post-Graduate Conferences was undertaken.

Visits were made to two county societies and to one hospital fund drive public meeting.

The routine correspondence was of usual amount with many interesting inquiries for information answered.

Our A. M. A. delegates were furnished their credentials and as speaker the difficult task of selecting the right persons for the Ten Reference Committees of the A. M. A. House of Delegates and the Speaker's Remarks was completed.

The Chair was still whirling on June 15th, as this is being written with two weeks of the month to go and three days of engagements to be filled. Since the season opened participation has been had in but one 18-hole contest and two nine-hole sessions—net loss, two balls and 80 cents.

Will someone please send in some oil to lubricate the whirling chair?

LEGISLATION

In the June issue the members were given a general story of the last session of the Legislature. The Legislative Commission will tender a formal report with recommendations at our annual meeting in September. The profession and the people of Michigan are indebted to Governor Green for his judgment in exercising his veto powers. We are also indebted to Dr. Ray Lyman Wilbur for the following communication:

May 13, 1929.

My Dear Governor Green:

For many years I have closely followed the development of American medical education, having been dean of a medical school and president of the Association of American Medical Colleges. During these years we have earnestly endeavored to bring medicine under the control of the universities, since regardless of the method of treatment, scientific medicine requires training in laboratories under the control of great scientific men. The proper laboratories are so expensive that only through state support or large endowment can a physician be given proper training for the care of the sick. There has also been a constant effort to make this work more effective by

choice of subjects and by stopping the simple multiplication of hours that made up the former curriculum before scientific training had become so important.

I note that in your state, even in the presence of your outstanding state supported University of Michigan Medical School, there is an effort being made to pass legislation permitting those belonging to a single type of treatment to have equal privileges in the care of the sick with those who have conformed to Class A Medical School training.

It seems to be particularly important in holding up standards of scientific education that within a single state with a great medical school under its charge, only one standard for the complete care of the sick should be permitted. I know of your wide interest in the protection of the public and trust that your influence will be on the side of those who have made the maximum effort to prepare themselves for the giving of proper and adequate medical care. There may be a place for the practice of various forms of treatment in a state, but it certainly should not be alongside of those trained at a state university.

Very sincerely yours,

Ray Lyman Wilbur.

MINUTES OF THE EXECUTIVE COMMITTEE OF THE MICHIGAN STATE MEDICAL SOCIETY

The Executive Committee of the Council met at the Pantlind Hotel, Grand Rapids, at 6:00 p. m. June 6, 1929.

Present: R. C. Stone, Chairman; J. D. Bruce; G. L. LeFevre; B. R. Corbus; L. J. Hirschman, President; R. R. Smith, Vice President; F. C. Warnshuis, Secretary.

1. Dr. Kiefer, Chairman of the Legislative Commission, made an extended report upon the activities of the Commission during the last session of the Legislature. He also, together with the Secretary, imparted a proposition tendered by a representative individual in connection with our legislative needs. On motion of Dr. Corbus-LeFevre, the preliminary report of the Legislative Commission was accepted and the proposition referred to was tabled until the September meeting of the Council. No definite action being taken at this time.

2. Upon motion of Dr. LeFevre-Bruce, the expenses and bills incurred by the activities of the Legislative Commission to the amount of \$1,000 were approved and ordered paid.

3. The Secretary gave an extended report of the arrangements that have been tentatively made for the holding of our annual meeting in Jackson. On motion of LeFevre-Bruce, the arrangements were approved and the Secretary directed to execute same preparatory to the annual meeting.

4. On motion of Hirschman-Bruce, the first general session is to be conducted in a public auditorium in Jackson and is to be made a semi-public meeting to which the citizens of Jackson are invited.

5. On motion of Corbus-LeFevre, the Secretary was directed to inform the Jackson local committee on arrangements that no formal entertainment was desired and that if they plan any entertainment it should be an informal affair following the adjournment of the House of Delegates.

6. On motion of Bruce-Corbus, the Secretary was directed to arrange for a commercial exhibit.

7. Upon motion of Corbus-LeFevre, the Secretary was directed to arrange for a scientific exhibit and to select some competent pathologist to be chairman of this scientific exhibit and to solicit the placing of exhibits by hospitals and by members.

8. On motion of Corbus-Bruce, the Secretary was directed to appropriate \$200 in prizes to be awarded at the discretion of an award committee to be appointed by the President for the best exhibit placed in this new department of our annual meeting.

9. Upon motion of Corbus-Bruce, the President was requested to solicit the interest of the Couzens Foundation in our orthopedic and pediatric post-graduate activities.

10. On motion of Bruce-Corbus, \$100 was appropriated for prizes that have been offered by the Joint Committee on Public Health Education for prize essays.

11. On motion of Corbus-Bruce, the Secretary was instructed to arrange the following Post-Graduate Conferences: Escanaba, Houghton, Sault Ste. Marie, Cadillac, Ludington. These to be conducted during the months of July and August and and the other conferences pledged for other Council Districts to be arranged for after the holding of the annual meeting.

The meeting adjourned at 10:30 p. m.

F. C. Warnshuis, Secretary.

UPPER PENINSULA SOCIETY

The Upper Peninsula Medical Society will hold its annual session in Ironwood, August 7 and 8. A cordial welcome awaits any member. The following program should include a large attendance:

PROGRAM

Wednesday, August Seventh

10:00 to 12:00 a. m.—Registration at Memorial Building.

1:00 p. m.—Official Opening.

Dr. A. J. O'Brien, President Gogebic County Medical Society.

Invocation—The Rev. Donald S. West, Ironwood.
Address of Welcome—Mayor John A. Landers, Ironwood.

President's Address—

Dr. H. E. Perry, Newberry, President Upper Peninsula Medical Society.

"Treatment of Fractures"

Dr. C. W. Hopkins, Chicago, Illinois.

"The Physician's Library"

Dr. A. Fischer, Hancock, Michigan.

"The Early Diagnosis of Exophthalmic Goiter"

Dr. Samuel F. Haines, Rochester, Minnesota.

"Injection of Varices and Ulcers of the Lower Extremities"

Dr. J. J. Walch, Escanaba, Michigan.

"Modern Methods of Treatment of Benign Prostatic Obstruction"

Dr. Verne C. Hunt, Rochester, Minnesota.

6:30 p. m.—Banquet for members and visiting physicians and their ladies.

8:00 p. m.—Public Meeting—

"Patent Medicine and the Public Health"

Dr. A. J. Cramp, Chicago, Illinois.

9:30 p. m.—Dance for members and visiting physicians and their ladies.

Thursday, August Eighth

8:30 a. m.—

"Forceps and Episiotomy"

Dr. E. L. Cornell, Chicago, Illinois.

"Treatment of Diabetes Mellitus"

Dr. Arthur C. Curtis, Ann Arbor, Michigan.

"Focal Infection from the Standpoint of the Proctologist"

Dr. Louis J. Hirschman, Detroit, Michigan.

"Infections of the Hand"

Dr. S. L. Koch, Chicago, Illinois.

"Personal Experiences with Pituitrin"

Dr. W. L. Maccani, Ironwood, Michigan.

Business Meeting with Election of Officers.

2:00 p. m.—Golf tournament at Country Club.

The meetings will be held at the Memorial building.

Members and visiting physicians are urgently invited to bring their ladies for whom a special program of entertainment has been arranged.

MECOSTA COUNTY

The May meeting of the Mecosta County Medical Society was held at the Western Hotel, Big Rapids, Michigan, Tuesday evening, May 7, 1929.

Sixteen members of the Society partook of the dinner in honor of Dr. Edward D. Spalding of Detroit. Dr. D. MacIntyre and Dr. Thomas P. Treynor were hosts to the Society.

Following a brief business session, Dr. Treynor introduced the principal speaker, Dr. Edward D. Spalding, who addressed the Society on the subject of "Modern Cardiac Therapy." In a masterly fashion, Dr. Spalding presented his subject, limiting his remarks to the more usual types of Cardiac disease. Classifying these various types for treatment into groups based on etiology.

The discussion which followed was participated in by most of those present, revealing a very general interest in the speaker's subject.

The meeting adjourned, following a rising vote of thanks to Dr. Spalding.

D. MacIntyre, Secretary.

LENAWEE COUNTY

The regular May meeting of the Lenawee County Medical Society was held at the Tea Room of Mrs. Adam Kohl in Hudson, on the evening of May 16th. Eighteen members were present besides Dr. Yeagley and Dr. Johnson of the Hillsdale County Society, and a druggist and dentist from Hudson.

After an excellent chicken dinner, the meeting was called to order by President Marsh. Dr. Griswold of the Michigan Department of Health was first introduced and fully explained the plan of the full time County Health Officer as recommended by the department. Dr. Griswold made it very clear that there is no other method of public health control that can compare in effectiveness with this plan, citing the experience of the control of disease at the time of the Mississippi flood. Also that if the plan is carried out under the scrutiny of the State Health Department, they will pay \$2,000 and the Rockefeller Foundation will pay \$3,000 per annum of the estimated cost of \$10,000 a year. On motion of Dr. Stafford, seconded by Dr. Hammel, the Society voted to go on record as favoring the plan as outlined by Dr. Griswold. Plans are on foot for a joint meeting in the fall of this Society and the Board of Supervisors, with the Welfare Committees of the luncheon clubs of the county, at which the County Health Officer plan will be discussed.

Following this discussion, Dr. Walter J. Wilson of Detroit was introduced, and he spoke to us on "Diagnosis of Heart Lesions," with especial reference to electrocardiography. This talk, while in-

formal, was very illuminating, and covered the ground rather fully in a short time.

Motion by Dr. Whitney that the Society send a letter of condolence to Dr. Crile on account of the accident at the Cleveland Clinic. Carried. Dr. Whitney and Dr. Westgate were appointed on the committee.

C. H. Westgate, Secretary.

JACKSON COUNTY

The May meeting was held at the Hayes Hotel, May 21st, 1929. Dinner was served at 7:00 o'clock, following which the meeting was called to order by President Hungerford.

The minutes of the previous meeting were approved as published in the Bulletin. President Hungerford then spoke a few words of welcome to the members of the Michigan Second District Dental Society, who were there as our guests.

Dr. Neal of Albion, president of the Dental Society, responded and said that he would like to see more joint meetings held. Dr. Hungerford then turned the meeting over to the chairman of the day, Dr. Brown.

Dr. Brown introduced as speaker of the day Dr. R. L. Kahn, Director of Laboratories, University of Michigan. Dr. Kahn was formerly connected with the Michigan State Laboratories at Lansing.

Dr. Kahn gave a very interesting talk on the League of Nations Conference on Sero-diagnosis of Syphilis and his various travels through Europe. He had some very interesting lantern slide charts, which very clearly depicted the superiority of the contest in the diagnosis of syphilis as well as the comparative ease with which the test may be run.

There was some discussion of the paper by a number of the doctors present.

Dr. Leahy announced that the annual picnic would be held June 20 in conjunction with the Washtenaw County Society at the Jackson County Club.

The meeting then adjourned. Attendance, 69.

SHIAWASSEE COUNTY

The April meeting of the Shiawassee County Medical Society was held in Owosso at Memorial Hospital at a noon luncheon. Fifteen doctors were present and were addressed by Doctors W. H. Snyder and Frank Ficklin, of Toledo, the former's topic being "Foreign Bodies in the Eye," and the latter's "General Surgical Indications in Traumatic Surgery." The May meeting was held at the same place and hour, and was addressed by Dr. R. S. Breakey, of Ann Arbor, who spoke on "Pyelography." Resolutions on the deaths of Doctors Colin McCormick and S. S. C. Phippen, both of Owosso, were read. Dr. P. E. Marsh, of Bancroft, was made a member of the Society at this meeting. The June meeting, held at Memorial Hospital June 13th, was addressed by Dr. E. R. Van der Slice, of Lansing, subject, "Diagnosis of Tuberculosis in Children." Seventeen physicians were present at this meeting. In Shiawassee county noon luncheon meetings are proving most practicable.

OAKLAND COUNTY

Golfers belonging to the Oakland County Medical Society will contest annually for a handsome trophy, which will be presented by Dr. Harvey Chapman, according to an announcement made by the donor at the monthly dinner meeting Thursday in Rochester.

The cup will go each year to the low net score in the annual tournament which will be figured on the basis of the card turned in, less each member's card handicap. The trophy will be in the possession of the winner for one year and will eventually become the permanent property of the member holding it at the time of Dr. Chapman's death.

During the afternoon members of the society inspected the Parkdale farm, owned by Parke, Davis & Co., near Rochester. The session Thursday closed the monthly scientific meetings during the summer. In July and August the physicians will have meetings of a social nature, Dr. C. A. Neafie, secretary, announced.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

INSULIN—For the general practitioner. A treatise intended to aid the practitioner who has not the advantages of a full laboratory and consultant service. By George H. Wood, M. D. Second and revised edition. Frederick Stearns and Company, pharmaceutical manufacturers, Detroit, Michigan, 1929.

This little work was first published two years ago. The present is a second edition. It contains a considerable amount of information on the subject of insulin and answers the questions that would naturally arise in the mind of the general practitioner who is not devoting the major portion of his time to the treatment of diabetes. Such subjects as, "Beginning the Use of Insulin," "Standard Diets," "Complications of Diabetes," "Laboratory Tests," are dealt with in a very interesting way. While this little book bears the imprint of a well known pharmaceutical company it does not carry any advertising matter. It is for free distribution to members of the medical profession who are interested in the subject.

HISTORY OF BLOCKLEY—A history of the Philadelphia General Hospital from its inception, 1731-1928. Compiled by John Welsh Croskey, M. D., Philadelphia, Pa. Illustrated with 15 halftone plates. F. A. Davis Company, publishers, Philadelphia, Pa., 1929. Price \$10.00.

This history of the Philadelphia General Hospital covers a period of approximately two hundred years. It is a pioneer institution and as such is of more than local interest. This new book contains over 700 pages, a great portion of which is valuable data for the medical historian.

HANDBOOK OF PHYSIOLOGY—W. D. Halliburton, M. D., LL. D., F. R. C. P., F. R. C. S., Emeritus Professor of Physiology, King's College, London, and R. J. S. McDowall, M. B., D. Sc., F. R. C. P. (Edin.) Dean of the Faculty of Medicine and Professor of Physiology, King's College, London. Eighteenth Edition. Contains over five hundred illustrations in the text, many of which are colored, and three colored plates. P. Blackiston's Son & Co., Philadelphia, Pa., 1929.

This edition has been completely revised and reset. The sections on the "Autonomic Nervous System," "Speech," "The Control of the Circulation," "The Carriage of the Carbon Dioxide," the "Maintenance of Body Neutrality," "Vitamins," "Ductless Glands," and "Intermediate Metabolism," are for the most part new. The section on the "Nervous System" has also been practically rewritten. The history of this book is very interesting. It is a lineal descendant of Kirkes Handbook of Physiology which many of us studied during our early medical college years. The book had its birth in St. Bartholomew's Hospital, London, 81 years ago, but it has been renewing its youth ever since. By the year 1867, it had attained the sixth edition; the ninth in 1876. Professor Halliburton undertook the revision in 1896. Up to the present twenty-eighth edition 116,000

copies have been published. Owing to the fact that the book had become entirely a new one, the name Kirkes was dropped and Halliburton's Physiology became its recognized title. The work under present authorship will be found very convenient and readable. We know of no more concise and authoritative handbook on the subject than the present volume.

TEXT BOOK OF CLINICAL NEUROLOGY—M. Neustaedter, M. D., Ph. D., Visiting Neurologist, Central Neurological Hospital, Welfare Island; Clinical Professor in Neurology, New York Polyclinic Medical School and Hospital; Neurologist King's County and City Hospital, etc., with introduction by Edward D. Fisher, M. D. Pp. 602, 228 illustrations. F. A. Davis & Co., Philadelphia.

A book for the student and general practitioner primarily, but of great value to the many specialties outside of the neurology. It departs from the time honored manner of etiology, pathology, symptomatology, etc., and leads off with the symptoms as given in actual occurrence in medical practice. It is a valuable contribution to medical literature and deserves a place on the reference desk of the surgeon as well as physician.

THE COMPARATIVE PHYSIOLOGY OF MUSCULAR TISSUE—A. D. Ritchie, 1928. 111 pp. Macmillan Company. \$3.00.

This book deals in a comprehensive yet concise manner with the chemical and physical manifestations of muscle cells. The author classes muscles into four functional groups distinguished by the amount of lactic acid produced in rigor, giving an admirable summary of recent work on various types of muscle. The lactic acid production, glycogen changes, carbon dioxide output, heat energy, work and general metabolism are well treated. A chapter is devoted to the effect of external agents (K, Ca, pH, etc.) on muscle metabolism. The various theories of muscular contraction are summarized. The work is quite readable and an index renders various points available for reference.

ANATOMY AND THE PROBLEM OF BEHAVIOR—G. E. Coghill, 1929, 113 pages. Macmillan Co., \$3.00.

During the past 30 years Professor Coghill has directed his research toward an attempt to correlate the increasingly complex behavior of developing neurone pathways of the central nervous system. The results of his many studies are available for the first time, with a philosophical and not too technical background, in this work which originally formed a series of three lectures at the University of London.

His theme briefly is this. During the early pre-nervous stages in development (of the salamander) the embryonic organization is main-

tained by differential gradients between centers of high metabolic activity. There is such a gradient in the tissue which differentiates into the central nervous system, and it is along this gradient that the nervous co-ordinating paths first differentiate. Thus the metabolic gradient as a factor in regulation and integration gives way to nervous tissue. Associated with the first differentiation of nerves is the first evidence of behavior, a simple bending of the body. As the nerve paths increase in extent the behavior becomes more complex so that the animal soon swims, seizes food, walks and reacts to various stimuli. Throughout development the behavior is affected and conditioned by the neurone pattern, a pattern which is efficient at any stage although changing throughout life. The author thus concludes that growth "is one of the means by which the nervous system performs its function in behavior" and through it the individual possesses a "creative potential for the future."

CLINICAL ELECTROCARDIOGRAMS — THEIR INTERPRETATION AND SIGNIFICANCE—Frederick A. Willius, M. D., Section on Cardiology, The Mayo Clinic, Rochester, Minnesota, and Associate Professor of Medicine, The Mayo Foundation, University of Minnesota. Quarto of 219 pages with 368 illustrations. W. B. Saunders Company, Philadelphia and London, 1929. Cloth \$8.00.

Electrocardiography has, at last, come into its proper place. In early days, there was much skepticism as to its value. Today many of the skeptics are purchasing equipment. The reasons for this are not hard to find, for it gives definite information that is not otherwise available.

This fact has been brought to our attention recently by the publication of a book by Dr. F. W. Willius of the Mayo Foundation. In this book, there are numerous electrocardiograms, with explanatory data. There is no attempt at explanation of the technic nor of the general underlying principles of electrocardiography but a careful perusal of the material would convince the most unbelieving that many forms of cardiac disturbance, impossible of demonstration otherwise, are illustrated here. A large number of cases of auricular tachycardia, a number of ventricular tachycardia, a large series of grams showing T-wave changes in coronary thrombosis and other forms of myocardial disturbance, a number of series of electrocardiograms in dying hearts, make a very interesting and valuable demonstration of the efficiency of the electrocardiograph. No cases of cardiac disease can be considered to have been thoroughly worked up unless electrocardiograms have been run on the patient.

As time goes on, with more careful study of experimental material, there is no question but that many more data will be obtained, enabling us to diagnose less and lesser degrees of cardiac disfunction.

SURGICAL PATHOLOGY—William Boyd, M. D., Professor of Pathology, University of Manitoba, Winnipeg, Canada. Second edition, revised and reset. Octavo of 933 pages, with 474 illustrations and 15 colored plates. W. B. Saunders Company, Philadelphia and London, March, 1929. Cloth, \$11.00 net.

In a foreword to this volume Dr. W. J. Mayo contrasts the present in pathology with the past. The pathology of the past was based upon post-mortem and cadaverized specimens removed at biopsy. Today pathology deals with living things. The author of the present volume has performed his task in keeping with present day demands, with the result that he has produced a very practical book. He has observed a sense of propor-

tion in the space allotted to each object having in view the importance of the matter treated. The usual divisions into general and special pathology have been observed; the former deals with general pathological processes; the latter concerns itself with particular regions and organs of the body. In the production of this second edition, the revision has been most thorough, several of the chapters having been entirely rewritten. The surgeon will find this work a valuable desk companion.

RECENT ADVANCES IN BACTERIOLOGY AND THE STUDY OF THE INFECTIONS—Henry J. Dible, M. B. M. R. C. P., Professor of Pathology and Bacteriology in the Welsh National Medical School. Published by P. Blackiston's Son and Company, Philadelphia, Pa., 1929.

This little book is one of the series entitled, "The Recent Advance Series," designed to give the up-to-date knowledge along the several lines. Here we have a review of the most recent changes in the subject and the indications showing the lives upon which it is developing.

EDEMA AND ITS TREATMENT—Herman Elwyn, M. D., Assistant Visiting Physician Gouverneur Hospital, New York. The MacMillan Company, New York. Price \$2.50. 1929.

This monograph is an explanation of the causation of edema. The author disagrees with attempted explanations based on the viewpoint of the local, chemical and physical forces involved. He explains that a physico chemical system alone cannot be made to explain the formation of edema. "We are not dealing with chemical reagents in a test tube which must react in the same manner if the conditions remain the same." "We are dealing," says the author, "with a physiological organism in which there are always adaptive regulatory mechanisms which have been developed phylogenetically." Among the subjects discussed are, "The Water Content of the Body;" "The Water Content of the Cell;" "The Water Deposits of the Body," and "The Role of the Kidneys in the Water Exchange." After a discussion of the physiological process the writer goes on to explain the formation of edema in its various phases including the edema of cardiac failure, of glomerulonephritis, of lipoid nephritis, of chronic under nutrition, and lastly, the treatment of edema. The work contains a bibliography consisting of 193 titles. It is recommended to the medical profession as embodying a very valuable and painstaking research on a subject that should appeal to every member of the profession.

DIAGNOSTIC METHODS IN INTERNAL MEDICINE—Samuel A. Loewenberg, M. D., F. A. C. P., Assistant Professor of Clinical Medicine, Jefferson Medical College. With 547 illustrations, some in colors. F. A. Davis, publishers, Philadelphia, Pa. Price \$10.00.

This is an entirely new work on the subject, and may be taken to represent the most recent methods in diagnosis and internal medicine. While the work is intended for the "general practitioner" the author very wisely maintains that everyone, even those who practice a specialty, should be presumed to possess the wide varied experience which is the possession of the conscientious man in general practice. The viewpoint of the book is "the person affected by an illness," rather than the "illness affecting a person." The reviewer quite agrees that because of the interrelation of all parts and organs of the body no one part or organ alone can be treated successfully unless proper consideration is given to the organism as a whole. This book is therefore also commended

to the specialist. The author gives instructions on the various methods of examining patients and discusses in minute detail the respiratory and cardiac systems. Considerable, though less space, is given to the digestive system, the nervous system and the genito-urinary system. There is a splendid chapter on laboratory interpretations. The chapter on Radiology is one that should be welcomed particularly by all who do not confine their attention to X-ray, inasmuch as it gives a very good idea of the scope and limitations of this branch of diagnosis. The illustrations are for the most part reproductions of photographs. There are a number of line drawings as well as diagrammatic illustrations. The publishers are to be congratulated on the appearance of the work from a typographical viewpoint. It is well indexed so as to make it an easy as well as valuable work of reference.

THE MEDICAL CLINICS OF NORTH AMERICA—Volume 12, Number 5, Southern Interurban Clinical Club Number. Published bi-monthly (six numbers a year) by W. B. Saunders Co., Philadelphia and London. March, 1929.

This well known volume contains 23 contributions from the leading members of the Southern Interurban Clinical Club. The volume opens with the clinic of Dr. C. C. Bass of New Orleans on the subject of Pellagra, dealing with many symptoms and lesions of the disease which are rarely discovered until late. Thyroid deficiency as a cause of poor health by Dr. James S. McLester of Birmingham, Alabama, is of especial interest and well written. The clinics of Dr. Paul H. Ringer on the problem of collapse therapy and Pulmonary Tuberculosis, is of especial interest at this time because of the newer surgical treatment of the disease which is being discussed. This is a cross section of the many interesting clinics treated by leading authorities in the south.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION—1929. Chicago: American Medical Association, 1929.

This book is a great deal more than a mere record of the negative actions of the Council on Pharmacy and Chemistry. It gives in full reasons for the Council's rejection of various preparations, but it also records results of the Council's investigations of new medicinal agents not yet out of the experimental stage, and frequently contains reports on general questions concerned with the advance of rational drug therapy. All three categories of reports are represented in the present volume.

Among the reports on products that have been denied admission to New and Nonofficial Remedies are those on Sanarthrit and Telatuten, two preparations of animal tissue, of indefinite composition, proposed for use in arthritis and arteriosclerosis respectively; on Clauden, a combination of lipoids and undefined proteins, proposed for use as a hemostatic; on Hart's Alimentary Elixir of Beef, a liquid medicinal food, "fortified" with glycerophosphates; on Alucol, claimed to be colloidal aluminum hydroxide and marketed under this nondescriptive name; on Oxo-Ate and Oxo-Ate B, claimed to be the ammonium and calcium salts, respectively, of orthoiodoxybenzoic acid and marketed under these proprietary, nondescriptive names; on Terpezone, stated to be pinene ozonide and marketed with exaggerated and unwarranted claims; on Vitalipon, an unscientific and indefinite mixture of lipoids claimed to be extracted from "vegetable and animal embryonic organs"; on

Kalak Water, a solution containing sodium bicarbonate with many other ingredients of questionable utility, marketed under a non-descriptive name with unwarranted therapeutic claims; on Eu-Med, Aerosan Tablets, and Thyangol Pastilles, three shotgun mixtures from Germany.

Among the preliminary reports are those on Metrazol, which has now been admitted to New and Nonofficial Remedies; on Phenylaminoethanol sulphate, a newly synthesized ephedrine substitute; on Ovarialhormon Folliculin Menformon, the ovarian preparation originated by Dr. Laqueur of Amsterdam; and on Heparhone, a liver preparation.

The special report dealing with dextrose solutions containing cresol and intended for intravenous administration is a noteworthy example of the third category of Council reports we have mentioned.

NEW AND NONOFFICIAL REMEDIES, 1929—Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1929. Cloth. Price, postpaid, \$1.50. Pp. 488; xlviii. Chicago: American Medical Association.

This book offers a solution to the problem of the busy physician who is daily importuned by "detail" men to try the thousand and one new preparations brought out by enterprising manufacturers of pharmaceuticals. If the preparation in question is not described in New and Nonofficial Remedies, it is quite safe to refuse to try it no matter how alluring the salesman's talk. The book contains descriptions of those new preparations which, after painstaking examination, the Council on Pharmacy and Chemistry has found worthy of recognition and of trial by the medical profession. It is revised each year to bring it up to date with the best medical thought and to include the new preparations that have been recognized during the year as well as to delete those which have been found not to live up to their promise of therapeutic value.

In this edition there appears for the first time an article on liver preparations and their therapeutic use. The articles on ergot, metallic peroxides, pituitary gland, and radium and radium salts have been considerably revised. Among the new preparations which have been included in this edition are: diphtheria toxoid, which is the toxin of diphtheria so modified by treatment with formaldehyde as greatly to reduce its toxicity yet preserving its antitoxic power; metrazol, another proposed substitute for camphor; liver extract No. 343 and concentrated liver extract-Armour, for the treatment of pernicious anemia. Other newly accepted articles are: bismuth sodium tartrate-Searle, another water soluble bismuth tartrate preparation; scarlet fever toxin-P. D. & Co., another scarlet fever toxin manufactured under lease of the Scarlet Fever Commission; parathyroid hormone-Squibb, standardized by the method of J. B. Collip, and paroidin, made and standardized by the method of A. M. Hanson, both being solutions of the active principle or principles of parathyroid gland for appropriate clinical use. An important deletion is the omission of all generators charged with radium.

A new departure in this edition is a list of "exempted" articles. This comprises some hundred and thirty medicinal and non-medicinal products examined by the Council and found to be of such composition and to be so marketed as not to require acceptance or rejection by the Council under its rules.

A section of the book (brought up to date each

year) gives references to proprietary articles not included in New and Nonofficial Remedies. This list, in conjunction with the book proper constitutes a cumulative index of proprietary medicines, which physicians may consult when a proprietary product is brought to their attention. Physicians cannot dispense with the use of the newer remedies that are brought out each year; yet they can neither judge them on the basis of the manufacturers' claims nor have they the time or means to determine their merits for themselves. For this reason, every physician should possess a copy of this volume, which annually puts at his disposal an authoritative, up to date, and unbiased estimate of these preparations.

PROCTOLOGY—A treatise on the malformations, injuries and diseases of the rectum, anus and pelvic colon. Frank C. Yeomans, A. B., M. D., F. A. C. S., Professor of Proctology, New York Polyclinic Medical School; Fellow and Past President, American Proctologic Society; Attending Surgeon, New York Cancer Institute; Proctologist, the New York Hospital. With 417 illustrations and 4 colored plates. Cloth \$12, net. D. Appleton & Co., New York.

Recognizing the growing importance of proctology as a specialty, Yeomans has produced a work which will assist materially in increasing the interest of every practitioner of medicine in this splendid field. From his large and varied experiences in large metropolitan clinics, as well as in private practice, he has presented a fund of information of great value.

He has drawn freely upon the work of Tuttle and other authors whenever necessary to make his work complete. The illustrations are clear and many of them original. The non-operative treatment of many of the minor diseases is detailed and the operative technic well described. It is a welcome and valuable addition to the library of any one who wishes to keep up to date in the specialty of proctology.

MENTAL HANDICAPS IN GOLF—Theo. B. Hyslop, M. D., F. R. S. E. Member of the Medical Golfing Society, Late Senior Physician to Bethlehem Royal Hospital. 112 pages, Pocket size edition. Bailliere, Tindall & Cox, London, Eng. Williams & Wilkins Co., Baltimore, 1927.

This book is a psychotherapy for the golfer whose chief hazards are his mental handicaps. It is written after the fashion of classical medical writers, medical nomenclature being used freely and effectively. It sets forth in very readable, amusing style rational and prejudicial convictions gathered from a medical golf "fan's" life-long struggle with the game. The doctor's experiences enriched by his dry English humor combine to render a very entertaining bit of reading. If you golf, this book may improve your game; it should improve your temper.

SUSCEPTIBILITY IMPORTANT IN DEVELOPMENT OF CANCER

Susceptibility is probably an important factor in cancer and increased susceptibility of the race to the cause or causes of cancer may account for the statistical increase in the disease, suggests Dr. William J. Mayo in the American Journal of Surgery. Recent observations and investigations made by himself and other scientists have confirmed Dr. Mayo's belief in the importance of this factor in the development of cancer.

"One factor of supreme importance which has not been sufficiently stressed is that individuals vary in their susceptibility to the cause or causes of cancer, whatever they may be," Dr. Mayo writes. "In no other way can we explain why 90

per cent of persons do not have cancerous disease, and why 10 per cent of them die from it." Dr. Mayo reasons that it is as logical to suppose that the 90 per cent have greater resistance to cancer as to try to explain why only 10 per cent came in contact with supposed causative agents. Dr. Mayo offered as a probable explanation that when sources of chronic irritation exist, the tissues involved try to heal the breach of continuity by normal cells, but if the irritation is long continued the tissues are not able to develop normal cells for the purpose, "and cells that are more and more immature are rushed to the rescue." In persons who are susceptible the cells "continue an unlimited functionless division."

"The assumption has always been," Dr. Mayo says, after discussing various theories recently put forward, "that the more severe grades of cancer are due to a more potent cause. I need hardly point out that these newer revelations throw some doubt on so ready an explanation. It is equally if not more probable that the more severe forms of cancer and the development of cancer in certain tissues are due to increased susceptibility. . . . Because of natural immunity to the disease, relatively only a small portion of the total population is susceptible to scarlet fever. With the Dick test the degree of natural immunity of the individual to scarlet fever can be determined, and if it is not sufficient to protect from the disease, it can be increased to normal by serum. Why not in cancer? Perhaps the development of cancer as well as its degree of malignancy is attributable to the diminished activity of immunizing processes rather than to the nature of the activating agent."—Science Service.

POTASSIUM PERMANGANATE IN THE TREATMENT OF PNEUMONIA*

The British Medical Journal of March 7th, 1925, reported the first known cases of pneumonia successfully treated by potassium permanganate, Dr. Herbert W. Nott of Birkenhead, England, having been responsible for the therapeutic experiment. The patients received standard solutions of the drug as retained enemas, recovered promptly, and convalesced more satisfactorily than by more orthodox methods. Later, Dr. Nelson J. Roche of Southsea, England, obtained equally satisfactory results with similar injections, which he reported in the same publication on March 12th, 1927. There is apparently no record of exposition of the drug for pneumonic conditions in American medical literature.

Becoming cognizant of the original experiments in England, Dr. John L. Chester of Detroit, treated an advanced and seemingly hopeless one of flu-pneumonia of tuberculous origin, which had failed to respond to other methods of treatment; was given 4 ounces of a standard solution of potassium permanganate every 3 hours, rectally, at Providence Hospital. The patient recovered with more celerity and less fatiguing effort than is customary in such circumstances. Through the co-operation of various Detroit physicians, an additional 23 cases of lobar and broncho pneumonia were thereafter subjected to the same treatment, also at Providence Hospital, with consistently good results, and but two deaths.

Under very adverse conditions at Eloise Hospital, through the courtesy of the superintendent

* Abstract of original article appearing in The Annals of Internal Medicine, published by The American College of Physicians. Vol. 2, No. 11, May, 1929.

and his staff, 20 cases of pneumonia were selected at random. All were severe and complicated, some with chronic heart conditions of long standing, and nearly all admitted chronic alcoholics. Ten of these cases were handled by other than the potassium permanganate method, and all died. The remaining 10 received appropriate doses of a standard solution of the drug, with the result that there were 50 per cent recoveries in what was considered well-nigh hopeless circumstances.

Is potassium permanganate a specific in pneumonia? A remedy that can consistently accomplish the following results. Lower temperature and pulse rate, and produce slower and deeper respirations, in a few hours; banish cyanosis, restlessness and sleeplessness, and ease cough and sputum, in 24 hours; obtain a normal temperature, pulse rate and respiration, in from 48 to 72 hours; render a patient fit to be discharged in a shorter time than would have been believed possible under any other regime—would seem to have all the earmarks of true specific action on the micro-organisms of pneumonia.

X-RAYS IMPORTANT FOR DETECTING EARLY TUBERCULOSIS

The X-ray is a valuable aid in protecting children from the ravages and dangers of tuberculosis, because by means of the X-ray, tuberculosis lesions, or injuries to tissues, may be discovered before the clinical symptoms, such as fever and fatigue, set in, declared Dr. F. Maurice McPhedran of the University of Pennsylvania, addressing the meeting of the National Tuberculosis Association in Atlantic City.

"Elevation of temperature and of pulse, malaise and fatigue are, properly speaking, late effects, coarse indices of activity," stated Dr. McPhedran. "The most reliable criterion we have of the activity of any lesion, whether latent or not, is the changes in the size and number of spots constituting its shadow on the X-ray film." In Dr. McPhedran's opinion the X-ray has a double value, first for detecting the disease in its very early stages when treatment is much the most successful, and second for determining the progress of the disease or its arrest by treatment.

The early stage of tuberculosis, known as the latent period, during which damage is being done to tissues without outward sign or warning, is a characteristic of tuberculosis of the lungs in children and adolescents, Dr. McPhedran pointed out. It is during this stage that treatment should be begun, because in children once the clinical symptoms have developed, the disease rapidly progresses to the stage of irreparable damage or to fatal ending.—Science Service.

FIND TUBERCULOSIS GERM MAY OCCUR IN TWO FORMS

Tuberculosis germs grown artificially may play strange tricks on scientists by occurring in two forms, one being comparatively harmless and the other being very virulent, Dr. S. A. Petroff of Trudeau, N. Y., reported to the National Tuberculosis Association at the opening session of its 25th annual meeting at Atlantic City.

Scientists who grow disease germs on a synthetic diet instead of human tissues and cells, favored by the germs, have known that some of the germs so grown appear in two forms, but this is the first knowledge that the germ of tuberculosis plays a dual role. Heretofore the tubercle bacillus, as it is called in scientific circles, has been considered one of the most stable of germs.

The two forms differ in other particulars besides virulency, but this difference is found in the bacillus of human, bovine, and avian tuberculosis; and in the bacillus used by Prof. Calmette of the Pasteur Institute, Paris, in his famous Calmette-Guerin vaccine against tuberculosis. This unsuspected difference may account for the unsatisfactory results reported by American scientists with the B. C. G. vaccine. A vaccine made from what was supposed to be the harmless tubercle bacilli would have an unfortunate effect on the subject vaccinated if the bacilli suddenly changed to the virulent form. This change may move in either direction, that is from virulent to harmless or the reverse, and may occur either within or without the human body, Dr. Petroff reported.—Science Service.

NEW CHEMICAL PROCESSES MAY MAKE SAFE FILMS CHEAPER

In about a year the cost of photographic film with cellulose acetate base, now about one-fifth higher than the dangerous cellulose nitrate film that caused the Cleveland Clinic disaster, may be reduced so that it competes in price with the nitrocellulose variety. This is the prediction of chemists who foresee future price declines in the costs of the raw materials, acetic anhydride and acetic acid, that enter into the manufacture of the cellulose acetate film base. New methods of manufacture of acetic acid and its compounds from alcohol are likely to bring about a price reduction of acetic acid from about 14 cents to 8 cents a pound.

Higher cost of the acetate safety films has been one of the chief factors in the continued use of the explosive cellulose nitrate films for X-ray use in hospitals despite the acknowledged danger that large quantities of such films entail. Lower cost for acetate films is expected to speed their use and reduce the hazards of storage of all sorts of films, whether in hospitals or elsewhere.

Laws and regulations are likely to require in the near future that the use of the safe acetate films shall be extended to ordinary photographic negatives, commercial motion picture films, etc. The 16 millimeter or reduced size film is already manufactured only on safety stock.—Science Service.

SCIENCE CALLS FLIES TO AID IN MEDICAL STUDIES

Flies which have long been held in bad esteem as spreaders of disease are about to do their bit in helping the human race. They are being used now for studies of the effect of X-rays on future generations. In flies, the harmful effects of these rays appear in the third and fourth generation, Dr. Mary B. Stark of New York City reported recently. She has exposed flies to X-rays for varying lengths of time. While the individuals exposed continue to grow and breed, their descendants die off. Dr. Stark believes this is because the reproductive cells of the grand-parent or great-grandparent flies were injured by the rays. This injury is inherited and finally causes death. In this same way cancer may be produced in third and fourth generations of flies. Dr. Stark believes that the experiments on flies will throw some light on this problem in human beings. Her theory is not accepted by all scientists, however. Because the human race breeds slowly, it will be some time before the inherited effects of X-rays can be noticed in man.—Science Service.

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THE PROFESSION'S INDIVIDUAL AND COMMUNITY RESPONSIBILITIES

OLIN WEST, M. D.

Secretary and General Manager, American Medical Association, before the Post-Graduate Conference, Detroit, Michigan, Tuesday evening, June 18, 1929

Mr. President, I am especially grateful for the opportunity that is offered me to meet with this particular group. It has been a privilege to hear the very scholarly paper presented by Dr. Lahey. I take great pride in the fact that Dr. Lahey is actively interested in the administration of the affairs of the American Medical Association. From what I know of him as a surgeon and from what I know of the intense and intelligent interest that he takes in everything that he has anything to do with, I can assure the Detroit Academy of Surgeons that it has really honored itself in taking him into honorary membership in that body.

I have watched with a great deal of interest of a very peculiar kind the efforts that the Michigan State Medical Society has made in co-operation with educational institutions in the state, to develop post-graduate instruction for the benefit of the rank and file of the profession in this state. There are those among the high-brows who object to courses of the kind that have been put on in Michigan, being called "post-graduate courses." I don't care what they call them, but I think it is an evidence of very important progress that the Michigan State Medical Society and the educational institutions of this great state have realized the duty which

rests upon all of them to do everything that can be done to improve the quality of medical service in the state and to make a good profession even better. I cannot conceive, by any chance, how such efforts as are being put forth here today can have any other effect than to tend toward the improvement of medical service and the better qualification of the medical profession of the state.

The topic assigned to me is one that deserves consideration by one better qualified for its discussion.

The responsibilities of the individual physician and the responsibilities of the organized profession are many and important. When I decided to study medi-

cine, I had already formulated for myself the highest possible conception of what medicine means, using the word "medicine" to include the profession of medicine and the practice of medicine. I have had great satisfaction in that simple fact. To my mind, the first duty, the first responsibility, that rests upon the physician is that he shall even before he starts to prepare himself for the practice of medicine, formulate for himself a high conception of what is involved in the life and the activities of a true physician.

It is not a difficult thing to do, if he will simply accept the conception which has been translated by the actions of true physicians throughout the ages into definite fact, namely, that the physician is the servant of the people; that he is engaged in work which none but he can do; that he is about to enter upon a profession, not a trade and not a business; and that he must, in all that he does, maintain all of its noblest traditions.

I sometimes think that some of our medical schools have not been careful enough in examining into the ideas and ideals that are entertained by prospective students. We might be better off if more careful examination had been made in that direction to the end that some undesirables who have gained entrance into the profession might have been excluded.

The next responsibility, in my mind, that rests upon the young physician is that he must prepare himself for giving the best possible service of which he can by any chance be capable. After having done that, the responsibility rests just as heavily upon him to maintain himself at the highest possible point of perfection, to the end that he may deliver adequate scientific service wherever his services are called for.

I was very much interested in thinking about men and measures in medicine, as I listened to Dr. Lahey and heard him describe his experiences with these diverticula and heard him admit openly and frankly the mistakes that he had made and how he had reasoned and worked and studied and perhaps experimented to find out the best way, to do the job in hand; and how freely he has given you the scientific knowledge he has acquired. That attitude is typical of the physician who really appreciates what it means to be a physician, and has always been typical of the true physician.

Another responsibility which rests upon the individual physician and on the profession collectively is that always it

should be remembered that the public is not made for the physician nor for the profession, but that the medical profession and the individual physician are made for the public. The patient, in a man's individual practice, always should come first. That has been the conception of high-minded physicians from the beginning of time.

Upon the medical profession collectively there rests the duty of providing proper guidance for the public in matters pertaining to health and to medicine. That responsibility can be discharged by the individual physician in his daily practice and, in a way to a larger degree through the effort of the organized medical profession.

It is a tremendous responsibility that rests upon the medical profession as a whole to maintain compact, efficient organization through which it can discharge its duty to itself and to the public. Of late years there have sprung up great numbers of medical organizations. It looks as though every fellow that happened to think about it has run off and organized some kind of a medical society. We have colleges and convocations and congresses and clubs and societies and associations and what not, almost without end. In my humble judgment, the situation has gotten to the point where it is fraught with grave danger to the interests of the entire medical profession of this country and, consequently, with danger to the public interest.

There is reason, perhaps, for the organization of independent societies, not directly affiliated with the regular medical organization as we have it in this country, to serve highly specialized groups. But I frequently wonder what it is that this multitudinous number of medical societies, made up as they are of the members of the regularly organized profession of the country, can do that could not be done just as well through county medical societies, state medical associations and the national organization composed of component county medical societies and constituent state medical organizations.

There has never been a time in the history of the American profession when there was such great need for compact organization or such great need for expression of the well-considered opinion of the medical profession through one great voice.

I think I can see evidences of dissipation of loyalty, dissipation of effort, waste of time and waste of money in the existence of so many independent medical societies. After long years of careful observation and

most conscientious study, I am convinced that the expression of opinion by so many groups may bring about embarrassing and really serious complications that will result in detriment both to the medical profession and to the public they serve.

The fundamental excuse, in my judgment, for the existence of the medical organization is that it may promote the art and science of medicine. It is all right for medical societies, for the organized medical profession, to attempt to deal with questions of material interest. It is their duty to do that. They should protect the rights of the practicing physician and of the profession. But I believe that any medical society that does not keep constantly in mind the fact that its first duty is for the promotion of the art and the science of medicine is doomed to failure.

There is a tendency in many places to relegate, in our programs, scientific subjects to the back seat and to discuss what we call "economic questions." Economic questions ought to be considered. They ought to be thoroughly and helpfully considered. But, I believe that when any society forgets that the promotion of the science of medicine is its first duty, it is not going to have very much influence in anything else. I cannot conceive how the organized medical profession can render better service to itself or to the public than by putting forth all possible effort to make every doctor in the organization a better doctor. The biggest duty of the medical profession to the public will be best served as the profession tries to make its every member a better qualified physician.

We have been much concerned, some of us, in late years about problems, as we please to call them, some of which really are problems of importance, some of which, to my mind are pseudo-problems. Some of these latter have been set up like windmills upon which their devisors might break their lances. Some of these problems that are real are going to be settled only through the processes of time. There are other problems of importance that organized medicine can do a great deal to solve. Even though we cannot find proper and final solution, much can be done in attempting to deal with them that will better conditions for everybody concerned. But we have wasted some of our time and effort in attempting to deal with matters that are not of very great importance and so have neglected others of more significant interest.

I like to believe, and I do steadfastly be-

lieve, that there is nothing in the world that can take the place of scientific medical service. Believing that, my conviction is to the effect that the best thing that organized medicine can do is to strive to promote the science of medicine and to do all that it can do to make its every member a better qualified physician. These courses that are being given here under the auspices of the Michigan State Medical Society and the Detroit College of Medicine and Surgery and, as I understand, the state university, are movements to that end and are worthy and greatly to be commended. Nobody can displace the physician who "delivers the goods."

There is a tendency in certain elements of the medical profession, and I am speaking hurriedly and not attempting to more than mention these points, to ridicule the ethics of the profession. There is an insistence which is surprisingly prevalent, though it comes from a minor group, that the principles of medical ethics by which we have been guided in our professional lives for these many years are out of date, not in keeping with the demands of the time. In the very element which sings that song the loudest there appears, to me, at any rate, to be a tendency to commercialize the practice of medicine. This element of the profession is a very minor one, but it does seem to me that they are making a great deal of fuss and that they are taking entirely the wrong tack. The great body of physicians of this country, who have the right conception and who respect the traditions and the ideals of the medical profession as they have been made throughout the ages, should speak out loudly and determinedly and make everybody understand that without ideas, without traditions, without principles of ethics, a profession cannot exist. The best protection that the public can have and that the individual patient can have is that protection which comes to him through the establishment and the observance and the maintenance of principles of ethics in the profession.

Just the other day I had a man say to me that the principles of medical ethics ought to be abolished almost in their entirety and brought down to a simple statement of the golden rule. Well, now, as a matter of fact, that is just about what the principles of medical ethics is. Every thread of the woof and warp of the golden rule runs through it from end to end. This same man in a little while told me that he believed that the medical profession, the

individual physician, ought to advertise. I didn't know it at the time, but I have found out since that he has perfectly good reasons of a commercial nature for entertaining the views he professes to hold.

There has been a very persistent propaganda on the part of certain elements of the public press to bring about advertising by the medical profession. Of course, we know that were we to yield to that point, were we to destroy that part of the principles of medical ethics which puts a professional ban on such advertising, it would be the loudest mouth that could do the most and the best advertising. Of course, we know that if one man advertises, every one must. The least qualified and the charlatan would be the best advertisers, the man of science and honor the poorest. The tendency to commercialize medicine must be stopped, and the only body in the world that can stop it is the great organized medical profession of the United States as it exists in the state associations and in the county societies.

If you want to make a business out of medicine, if you want to destroy it as a profession, abandon your principles of medical ethics and you will be in business up to your necks, your relations to each other will be unbearable and the public will be the sufferers, because scientific medicine will be destroyed and adequate scientific service will not be available.

I have been told, since I came here tonight, that I have been quoted in one of the Detroit papers in some way, I don't know how, with respect to the cost of medical care. I am going to try to tell you just a little bit in a very few words about a movement that has been under way for a year or two in the United States with which I am identified and in which connection I imagine I was quoted in an afternoon paper.

There is a great tendency on the part of laymen to get hold of the control of the practice of medicine and, as they see it, to extend the benefits of medicine rapidly to the entire public. I think they have a very wrong conception of all that is involved. But the tendency is there and the determination is there. An unusual amount of sickness in the family of a man in ordinary circumstances imposes a heavy financial burden.

Sensing this, a group of men two or three years ago organized what they were pleased to call the Committee on the Cost of Medical Care. As it was first constituted, it is my information, that committee

had only one practicing physician on it, and he one who practices medicine under conditions that are very different from those that obtain in the practice of the ordinary doctor. This committee announced a program, a five-year program of investigation and study of the conditions of medical service, with a view to establishing the facts about the cost of medical service. It was composed, according to my information, of economists, statisticians, teachers, and other laymen. A little later one or two physicians were brought into membership on the committee. I, as Secretary of the American Medical Association, was invited to become a member and brought the matter to the attention of the Board of Trustees of the American Medical Association. It was felt that as this committee was going on with its plans and as representatives of the medical profession had been asked to participate in its work, if that invitation were refused, the work of the committee would go on just the same. Five practicing physicians were added to the committee, which at the present time has some 50 members. I think that 17, maybe a little more, of that number are physicians, most of them practicing physicians. The committee has undertaken a program to cover five years of investigation into the conditions medical service and the costs. The committee has sent out some publicity material which I would not approve, but I am convinced that it is attempting earnestly to develop important facts, that if they can be properly applied, will be very helpful in the solution of very important questions.

The American Medical Association has taken over as its own enterprise two of these studies, the one dealing with capital investment in medicine and the other dealing with income of physicians. Those two studies are being made by the American Medical Association through its own machinery, and, as I said a moment ago, entirely as the enterprise of the association itself. The results of the study will be made available to the Committee on the Cost of Medical Care and to everybody else. We hope we are going to be able to develop some fundamental facts that will be of great importance and that these facts may be used to the benefit of physicians and to the benefit of the public.

There has been a tendency in some places to make it appear that the high cost of medical service is due entirely to the fees charged by physicians. I think we are going to be able to establish that

that is not true, and that the charges of physicians for services rendered constitute really a small part of the entire cost of medical service. We are already getting some very interesting information from various parts of the country both with respect to what their education and training and equipment have cost physicians and with respect to the income which they are able to earn in their practices.

It is interesting indeed to see how nearly the returns that have been received up to the present time, in the study on capital investment of medicine, have come to the line of averages. It is also interesting, as the returns come in in greater numbers, to formulate a guess as to what the average income of the physician of the United States is going to prove to be. We don't know yet, but I can tell you that it varies all the way from serious losses in the course of a year up to a good many thousand dollars, in the case of a very few physicians.

We have gone far enough to show, I think, that in times of depression the doctor is hit first and hit worse than anybody. I think we are going to be able to establish the fact that the medical profession is not to blame for certain conditions that have arisen within the last few years whereby men who are suddenly subjected to great strain by reason of illness in their families are financially embarrassed. There are many elements in that situation. We are passing through a great transitional stage brought about by many factors. The war had something to do with it. Developments in business have had a great deal to do with it. Who could have foreseen a few years ago that the manufacturing interests of this country would have adopted the mass production policy that is so much in evidence today? Who could have foreseen a few years ago that high pressure salesmanship was going to be developed to such an extent and that installment buying was going to play such an important part in the business affairs of the United States? The man in ordinary circumstances is the biggest consumer and the readiest target for the installment seller. He buys, under the pressure of modern business, the automobile, the radio, the washing machine, the vacuum sweeper and the piano player—and he buys them, for the most part, on the installment plan. Business demands payments when payments are due, and, insofar as I know, asks no questions as to

the bearing of illness on the ability of the purchaser to meet these payments. There is nobody who urges on the average citizen the need for making proper provision for meeting the costs of illness that he will almost surely be called upon to meet.

I hope that all of you here and all of the profession in Michigan will co-operate with us in order that we may develop, as nearly as possible, the actual facts through the two studies that are being undertaken by the American Medical Association.

I want to congratulate the Michigan State Medical Society and its officers and the other organizations which are co-operating so splendidly in this movement for extension courses for the benefit of the doctors, and on the splendid success that has attended their efforts so far. Michigan is very fortunate in many respects. You have, among other splendid officials, a governor who seems to appreciate the kind of protection that the public needs. You have a state health officer who, in my judgment, represents in splendid fashion the profession of medicine in a service that ought to be rendered by professional men. I hope that the entire profession of this state is going to uphold the hands of your health officer and thereby discharge one of the responsibilities that rests upon the medical profession, as individuals and in its organized capacity, because "the betterment of the public health" is one of the express purposes in the constitution of the regularly organized profession of the United States.

It seems to me that Michigan is fortunate, also, in having this great splendid city of Detroit and in its fine medical profession. It is pleasing to see that the medical profession of Detroit is co-operating fully with the state medical society in its program for the improvement of medicine in this state.

I have always thought that there is a peculiar responsibility that rests upon the physicians of the great city. They have advantages that none others can have, and advantages impose obligations. In my conception of medicine, responsibilities and obligations and privileges are practically synonymous. It is a great privilege to be a physician, to be a member of a great profession and of the organizations maintained by that profession.

PREVENTIVE MEASURES*

GUY L. KIEFER, M. D.

Commissioner of Health

LANSING, MICHIGAN

If I had been called upon a year or two ago, certainly if I had been called on five years ago, to talk to you about preventive measures, you would certainly have expected me to tell you what the State Department of Health is doing in the prevention of disease. Today I do not feel called upon to tell you anything of the kind because I firmly believe that the job of health agencies, both official and unofficial, is educational and I mean just that. I mean that it is our duty to educate the public to go to the doctors for the carrying out of preventive measures and it is your job to do this preventive work.

Of course, there are some general measures of a large scope like looking after water supplies, in a general way looking after food supplies, sewage disposal, etc., which are still the duties of boards of health. But when it comes to things that have to do with the health of the individual, these are indeed individual matters and belong to the physicians.

Let us take smallpox, for example. In the past, vaccination has been practiced whenever there was an outbreak of smallpox. Boards of health attempted to line up all of the exposures at such a time and everybody else whom they could reach, and vaccinate them. But we really haven't gotten very far. In something like one hundred and forty years a great many people have been vaccinated, but there are always epidemics cropping out. Smallpox is more or less endemic in Michigan.

Now I have a scheme in the back of my head which I have not tried to work out as yet and which requires the absolute, solid co-operation of the medical profession. If we could get every baby vaccinated at the time of its birth, it wouldn't be twenty-five years before we would have a vaccinated public. This work, of course, would have to be done by the doctors. My idea is that every hospital ought to have as part of its routine, the vaccination of every baby born in that hospital before it leaves the institution. On the other hand, doctors ought to agree that they will vaccinate every baby whose birth they attend outside of the hospital, before they discharge that case of obstetrics.

The law now requires that silver-nitrate be instilled into the eyes of every new-born baby by the attending physician, and why could we not have these vaccinations arranged by agreement rather than by legal compulsion?

Now let us look at typhoid. There ought to be a definite time to recommend typhoid

immunization and it occurs to me that that definite time should be before any one takes a vacation and if the doctors would help us spread the gospel that it is necessary for everyone before they go on their first vacation to be protected in this way against typhoid, we would be successful in this activity at least, we would have everyone immunized against typhoid for a number of years.

Much has been said recently, within the last ten years, about diphtheria immunization and many children have been immunized against diphtheria by boards of health directly and by their own physicians. Now I maintain that it is no longer the function of boards of health to do this work. The early work was done by way of demonstration. The demonstration has been made. Children who have been thus immunized have remained protected against diphtheria and it is now the duty of the doctors to immunize all unprotected children. Many immunizations have been done in the schools in the past. The Parent-Teacher Associations in this and other states are conducting what they call their "Summer Round Up." This "Summer Round Up" means corralling all children who expect to attend school this fall and seeing to it that they have any existing physical defects corrected and that they are immunized against various communicable diseases. In this state the Department of Health is assisting as much as possible in bringing about the results that the Parent-Teacher Associations desire, but the work of examining children, correcting physical defects and immunizing children, must be done by the physicians. The Michigan State Medical Society has endorsed this program of rounding up children, with the understanding that the clinical work be left with the doctors.

It has occurred to the Michigan Depart-

* Read before the second Post-Graduate Clinic. Under the auspices of the Post-Graduate Department of the University of Michigan and Alumni Association, Detroit College of Medicine.

ment of Health recently that if we could reach children much earlier in life than just before school age, and immunize them against diphtheria, it would be the best way to proceed. But this must be done through the doctors. In accordance with this thought, we determined to send out a letter to each doctor who is on record as having reported one or more births, nine months after such births have been reported, the letter being as follows: "During the month of you attended the births of the children listed below. If these children have not already been protected from diphtheria by the use of toxin-antitoxin, the time has come when they should be so protected. You, of course, understand that diphtheria is exceedingly fatal to young children and that practically all children of this age are highly susceptible to the disease and we believe that you can do no larger service to your clients than to immunize these children at this time. The department will be very glad to furnish the material for this immunization without charge if you will arrange to give it, or if you prefer, we will be glad to write to the parents of these children, sending them literature on this subject and try to impress upon them the necessity of this action, if you will note their present address, but we will not write to these people directly except at your request." We have had a great many answers and we estimate that although this new scheme was only started May 15th, over one thousand children have been immunized as a result of it. While we have received many answers, we assume that some doctors have gone ahead and immunized the children referred to in the letter without answering it.

On the other hand, some of the answers to us have been most gratifying and show that this active co-operation between the Board of Health and the physician does exist. I give one example. A doctor in a small town in Michigan received this letter on June 12th. He answered it as follows: "You may place a standing order with your clerks to send this information to any and all of my O. B. patients when the time comes for each." When doctors have gotten into a frame of mind where they say that their Public Health Commissioner may "write to my family" and they do this without even asking what he is going to write, it shows absolute confidence, and that has been lacking in the past.

The letter that we do write to the par-

ents when asked to do so by the attending physician is as follows:

"This letter is to inform you that the child born to you about nine months ago has been duly registered with the Michigan Department of Health. The registration of the child's birth by the physician in attendance is a matter of importance in establishing

1. The right to enter school.
2. The right to vote.
3. The right to make a contract.
4. The right to hold office.
5. The right to marry.
6. The right to work.
7. The right to inheritance.
8. The right to insurance.
9. The right to compensation.
10. The right to pension.
11. The right to obtain a passport.

"At any time that a copy of the registration of birth is needed for any of these purposes, we would be glad to furnish it from this office.

"Now that the child is nearly one year of age, it is felt to be a matter of importance to call your attention to the desirability of immunization against diphtheria. Diphtheria is a dangerous communicable disease that last year attacked 3,725 Michigan children. Three hundred and eighty-five of these children lost their lives to this disease. Many of those who survived will go through life with damaged hearts, kidneys and other vital organs.

"For five years the Michigan Department of Health, along with all outstanding public health agencies in the United States, has been advocating the use of toxin-antitoxin for the prevention of diphtheria. During this time there has not a single case come to our attention in which a child that was previously immunized with toxin-antitoxin has lost its life due to diphtheria. In fact, there were 27 counties in the state where there was not a single diphtheria death during the entire year of 1928. These were the counties where a large proportion of the children had been previously immunized with toxin-antitoxin. The death rate from diphtheria among school children is falling very rapidly because the bulk of this diphtheria prevention work has been done in the public schools. The next large group that must be reached with the protection of toxin-antitoxin is the group of children who are too young to be attending school. Children from six months of age to six years of age are particularly susceptible to diphtheria. Sixty-five per cent of all the cases occur in this

age group. Diphtheria is particularly fatal to these young children. Eighty-five per cent of the diphtheria deaths occur among these very young children.

"All competent health authorities agree that children should be immunized as soon after six months of age as possible. The Michigan Department of Health wishes to advise you that as a part of its efforts to "make diphtheria ancient history in Michigan," you should take your youngest baby, together with all other of your children who have not been previously protected with toxin-antitoxin, to the physician who was present at the time of birth, and have the important matter of immunization taken care of at this time.

"The physician who attended you has designated to this office that he is endorsing this diphtheria prevention campaign, and we earnestly advise that you take your unimmunized children to his office for this important service."

We believe that this way of reaching children is going to be very successful and we can extend it to scarlet fever after awhile but, of course, we cannot load too many things upon the public at once.

In the meantime the doctors should certainly charge for all of these services. This is preventive medicine and I want to repeat, it belongs to the practice of medicine. In my own opinion it is much more valuable to the people who receive it than our old fashioned way of practicing curative medicine.

A few days ago I was talking to a group of practicing physicians and health officers and I was suggesting some of the ideas

that I have presented to you, when one of the doctors called out something as follows: "Well, you have never asked us to do anything except immunization and we are doing that. Why don't you get up some literature for the doctors?" I consider his statement constructive criticism. Why not get up such literature? Why not send the doctors a bulletin on periodical examinations, for example, enclosing a sample blank for examination and calling their attention to the fact that when people come for such examination they should be given a definite answer as to their condition after they have paid their fee?

We could extend this sort of educational pamphlet for doctors to prenatal work, infant welfare work, and many other methods of preventive medicine that are now practiced by specialists and should be done by all doctors. I believe the profession is ready to receive such suggestions and perhaps we will in the near future, after we know that our baby immunization plan has succeeded, extend the work to other preventive activities. I am satisfied that we can accomplish much better results in this co-operative way than by attempting to have employees of the board of health do the clinical work. This plan will not be a temporary demonstration of necessary methods, but it will be a lasting practice on the part of all physicians.

Much has been said in the past about state medicine. I am not afraid of its arrival. I do not see how state medicine can come to pass if doctors will help work out this problem of public health and preventive medicine, as I have tried to indicate to you.

BLADDER DYSFUNCTION FOLLOWING PROSTATIC ABSCESS

R. E. Cumming, Detroit (Journal A. M. A., Jan. 12, 1929), records the case of a man, aged 60, with bladder dysfunction following prostatic abscess. A careful study of the case leads him to consider, in diagnostic procedures, the possibility of sudden massive destruction of the prostate with resulting grave bladder dysfunction. In a former instance the phenomenon was complete and permanent

urinary retention; in this case there was both retention and incontinence, and also a severe secondary hemorrhage. Diagnosis depends on a complete history, cysto-urethroscopic studies and urography. Satisfactory surgical intervention consists of a merging of the bladder and extravescical, pseudodiverticular cavity.

PROTEST TARIFF ON SURGICAL INSTRUMENTS

Due to protests from hospitals and medical associations, a number of Representatives at Washington are understood to be organizing to fight the new high tariffs on surgical and dental instruments in the bill now before the House. A speech made the first of this week on the House floor by Representative J. Charles Linthicum, democrat, of Maryland, declared that new duties of 70 per cent ad valorem on surgical instruments and 60 per cent on dental instruments would work undue hardships on hospitals. He has received, he states, strong protests from Johns Hopkins

University and Hospital. To increase the duty from 45 per cent to 70 per cent is uncalled for, he maintains, when the industry which seeks protection has only a \$2,000,000 capitalization in this country. Representative Louis Ludlow, democrat, of Indiana, has filed protests from the Indiana Medical Society. Representative John W. Summers of Washington, however, is both a physician and a republican, and is expected to go before the Ways and Means Committee in protest on the new surgical instrument rates.—Science Service.

DIAGNOSIS IN GYNECOLOGICAL CONDITIONS BY THE USE OF THE TRANSUTERINE INJECTION OF LIPIODOL AND ROENTGENOGRAPHY*

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Owing to the brief period of time allotted us for the presentation of this subject a detailed review of the literature bearing on the numerous points of interest that have been brought out within the past few years must of necessity be omitted herein.

While the procedure is yet a comparatively new one, the literature is fairly abundant with reports pertaining to its use and it is the consensus of opinion of the majority that it is indeed a most valuable aid in diagnosis in properly selected cases. That it not only supplements the Rubin test but in many instances supplants it is the generally accepted opinion today, sponsored primarily by Jarcho³, of New York, and since confirmed by ourselves and many others. That the injection, if performed in properly selected cases under strict aseptic precautions, is a harmless procedure productive of much valuable information, is the common experience of practically all workers, included among whom may be mentioned Rubin⁸ of New York, Newell⁴ of St. Louis, Randall⁵ of Rochester, and many others.

Heuser² of Buenos Aires, one of the very first to employ this procedure, reported in 1925 on its successful use in arriving at a diagnosis of early pregnancy. No ill effects were reported and he was enabled to arrive at a diagnosis in every instance. His more recent work has contributed some very interesting data regarding the muscular action of the tubes and of a salpingo-uterine sphincter.

Romcke⁷ has been able to demonstrate histologically the anatomical substratum of this sphincteric action at the corun.

Other interesting data is also reported regarding the muscular contractions of the uterus and tubes under various conditions, all of which may in time serve to clarify some of the yet not thoroughly understood factors pertaining particularly to sterility.

In presenting this report we wish to emphasize that we in no instance advocate its use as a short cut in arriving at an ultimate diagnosis, but we are firmly convinced that in many instances where modern methods of investigation fail, that the true pathology may be revealed by the employment of this procedure.

For obvious reasons we do not advocate its employment in the presence of active infections or in cases of carcinoma. Following the recent fatalities recorded following the Rubin test, we are of the opinion that this procedure should not be employed in the presence of or immediately following any uterine hemorrhage.

It is our observation that, if carried out under strict aseptic precautions, the transuterine injection of lipiodol is a safe and valuable procedure which is well borne by the patient and is likewise devoid of any discomfort following. Of particular interest in this connection is our observation of the apparent therapeutic value of lipiodol observed in four cases of our series. All four, on bimanual examinations, revealed tender but not enlarged appendages, limited in motion. All four patients complained of typical symptoms of bilateral chronic pelvic inflammatory disease, and were diagnosed as such both clinically and roentgenologically. All four cases have remained symptom-free following the injections, and one case, on whom a definite bilateral tubal occlusion was demonstrated, has since become pregnant.

Rucker⁹ of Virginia, also reports a case on whom a lipiodol injection revealed bilateral tubal occlusion, yet who five months later became pregnant.

Jarcho³, in his last report, has demonstrated by repeated injections that inflammatory lesions previously existing were not present when subsequent injections were made.

We purposely omit herein a detailed description of our technic in order that more time may be devoted to our observations. In passing, however, we wish to emphasize the necessity of making stereo-roentgenograms in the antero-posterior and lateral and oblique positions, as it is only by this means that the true relationship of the structures can be determined.

It must be emphasized that in studying

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the roentgenograms of injected uteri and tubes, that it is only the cavity and lumina of these structures that are outlined and not the organs themselves. Obviously one must thoroughly familiarize himself with the appearance of the normal cavity and lumina in order that he may recognize and interpret intelligently the abnormal. In either instance a satisfactory filling of the cavities under study must be obtained or corresponding errors in interpretation will result. In like manner the injection of too large a quantity of oil in a pelvis with patent tubes will interfere with the proper interpretation, as the excess of oil will cast a shadow which will be confusing with the shadow cast by the injected structures.

ROENTGEN FINDINGS IN STERILITY

We believe that it is in this group of cases that this procedure is of the greatest value, and it is entirely probable that the continued use of contrast mediums employed in conjunction with roentgenography in this group of cases will result in an increased knowledge of the various factors which enter into the production of sterility. That there are certain mechanical factors which are, as yet, not fully understood that may in time be revealed by further study, is entirely probable. Reference to the work of Rubin and Bendick³, Heuser², Reinberg and Arnstam⁶, and Bakke¹, only serves to further emphasize this point.

In our own experience sterility that is due to obstructive lesions or to developmental anomalies in the female can usually be explained by the findings on the roentgenograms of the oil injected uteri and oviducts.

In our experience a surprisingly large number of these individuals have infantile uteri, the cavities of which are so small that implantation of the fertilized ovum is extremely improbable. These uteri cast a small triangular, or in some instances bicornate-like shadow on the roentgenogram, which is decidedly smaller than the shadow cast by the normal uterine cavity. From 3 to 5 c.c. of oil is necessary to fill the average normal uterus, yet the cavity of the infantile type can readily be outlined with a much smaller quantity, in some cases as little as one-half c.c. being sufficient to fill the cavity.

Where sterility is due to tubal occlusion the exact location of the lesion can be accurately demonstrated by this procedure. The operator is thus enabled to more carefully select his cases where a salpingos-

tomy is contemplated, for obviously a tube occluded at or near the cornual extremity is less amenable to surgical correction than one occluded near the fimbria. Some workers have emphasized the importance of observing the passage of the oil from the uterine cavity through the tube under the fluoroscopic screen. While we agree that fluoroscopic observation gives an opportunity to observe the progress of the oil through the tube, we do not believe that the information thus gained is superior to the stero-roentgenograms unless one is attempting a study of the peristalsis or muscular action of these organs. In such cases fluoroscopic observation obviously would be most essential. That the Rubin test is truly a more practical diagnostic procedure in sterility studies must be conceded, yet the employment of the transuterine injection of iodized oils and roentgenography is productive of far more valuable information. This point is well brought out by reference to Mrs. E., aged 39, married nine years, with no history whatever of pelvic disorder. Pelvic examination revealed no palpable pelvic pathology, though a deep pelvis and a moderate but firm panniculus precluded the possibility of a satisfactory palpation of the fundus. Husband's secretion showed numerous active spermatozoa on three different examinations. The Rubin test on two successive occasions revealed both tubes patent. No explanation for her sterility could be given. She was subsequently referred for a lipiodol injection with the result that an infantile uterus with patent tubes was discovered. That this condition could have been discovered by examination under anaesthesia must be conceded, yet the procedure adhered to was certainly attenuated with much less risk and inconvenience to the patient. It has been further observed by us in numerous instances that cases on which tubal occlusion was diagnosed by the Rubin method were demonstrated to possess patent tubes when subsequently subjected to the procedure under consideration. That the same findings which we obtained would have been obtained had the Rubin tests been repeated is truly probable, yet the point is made to emphasize the more constant findings obtained in repeated lipiodol injections. In this connection it is worthy of mention that in many instances the oil will enter the finely constricted lumina of many tubes much more readily under a lowered pressure than when injected under high pressure.

ROENTGEN FINDINGS IN TUMORS OF UTERUS
AND ADNEXA

Our experience in tumors of the uterus is limited entirely to fibroids and these are considered according to their location in the uterus being sub-serous, intramural or sub-mucous. We agree in the opinion of Newell¹, Jarcho³, Heuser² and others, in that the use of lipiodol and roentgenography in the diagnosis of these conditions is of value only in those cases in which the cavity of the uterus is enlarged, distorted or encroached upon. Owing to the fact that the majority of tumors of the uterus can be readily discovered by a thorough pelvic examination, the number of instances in which the employment of this procedure would be of value as a diagnostic aid is necessarily even more limited, comprising, in the vast majority of instances those small submucous and intramural growths which, on account of their size and location, are frequently not palpable, yet are of sufficient dimensions to produce the characteristic filling defect shown on the stereoroentgenograms. In this connection it is worthy of mention that of these growths, the submucous fibroids would obviously be the more early diagnosed, as distortion of the uterine cavity would not necessarily occur in the intramural or subserous until they had attained considerable dimensions. Of particular interest in connection with distortion of the uterine cavity in conditions which are not palpable is the case of a young girl, single, 17 years of age, who had profuse bleeding with each period for one year and frequent inter-menstrual spotting. A roentgenogram of her injected uterus showed a peculiar sierrated irregularity in the contour of the uterine cavity which we believe is due to a diffuse polypoid endometrium. Unfortunately, this patient has as yet not submitted herself for operation. In considering distortion of the uterine cavity as produced by fibroid tumors, it must be borne in mind that any type of distortion may be produced, dependent, of course, on the location and size and number of tumors present in a given uterus. In many instances enlargement of the cavity has been observed to such extent that as much as 50 to 65 c.c. of oil were required to completely fill the cavity. Owing to the ease with which the pedunculated subserous tumors are recognized, plus the fact that distortion of the cavity is not necessarily an accompaniment of such conditions, the use of this procedure in this type of tumors is not of diagnostic value.

In conditions, however, where the pelvis or lower abdomen is occupied by several tumor masses the employment of the transuterine injection of lipiodol and roentgenography will serve to differentiate the uterine body from these masses and thereby afford the surgeon much valuable information, particularly in cases where conservative surgery is desired.

ROENTGEN FINDINGS IN PREGNANCY

We candidly admit our apprehension before injecting our first case of pregnancy. We further admit that for quite some time we were very reluctant to undertake roentgen studies of the oil injected gravid uterus, believing that the dangers encountered in such procedures would be far greater than the value of the information obtained. A careful review of Heuser's work on the early diagnosis of pregnancy by the use of iodized oils and roentgenography, however, served to partially allay this belief. Heuser concludes that, if performed under strict aseptic precautions, the procedure is well borne in the gravid state and is attended with no danger to the patient or to the developing fetus.

As added evidence of how well the gravid uterus stands this procedure, Heuser further states that he and his colleagues injected the pregnant uteri in tuberculous patients in whom a therapeutic abortion was indicated, in an effort to produce an abortion, but that in all instances they were unsuccessful. He further concludes that in the earlier weeks of pregnancy a positive diagnosis can be accurately made by the employment of this procedure. Despite the very excellent report of Heuser², we still feel that this subject should be approached most carefully and for that reason have only selected those cases for injection on which a therapeutic abortion was contemplated. Three such cases were injected by us, and while we admit that this number is not sufficient to permit one to formulate any definite opinion, yet it is particularly interesting to note the very close similarity in our findings as compared with Heuser's. Both cases were injected before the ninth week of pregnancy and both showed decided evidence of a marked increase in size of the uterine cavity greatly in excess of what one would observe in any other condition, considering the size of the fundus. Each case required over 35 c.c. of oil, or approximately 10 times the amount required to fill the normal cavity. Of further interest is the fact that the triangular outline of

the normal uterine cavity is lost in the early weeks of gestation and instead becomes more oblong or ovoid. The site of attachment of the ovum can be readily demonstrated, by the characteristic filling defect evident on the roentgenogram. Of particular interest in this connection is the peculiar web-like distribution of the oil about the unattached portion of the ovum, a point which is of especial value in the differential diagnosis of myomas and early pregnancy.

In our limited experience the injections were well borne by the patients and neither experienced any untoward symptoms following the injections. We can readily see whereby, in the occasional case where a diagnosis of early pregnancy might be essential, that this procedure would be of some value. Probably of greater practical value, however, to the gynecologist, is the opportunity which this procedure presents for the differential diagnosis of soft uterine myomata and early pregnancy. Though our work in this connection has been limited, owing to the small number of pregnancies available for injection, yet the results obtained to date are sufficient to convince us of its practical application in selected cases.

ROENTGEN STUDIES IN OVARIAN TUMORS

The value of this procedure as an aid in the diagnosis of ovarian tumors has been, up to the present time, limited to the more common type of tumors encountered, namely, ovarian cysts. In our experience the small, simple follicle cysts cannot be visualized by the use of lipiodol injections and roentgenography. Stein and Ahrens¹⁰ of Chicago, however, by combining the pneumoperitoneum with the transuterine injection of lipiodol and roentgenography, have been able by this procedure to demonstrate on roentgenograms the small, simple follicle cysts so frequently encountered, yet probably less frequently palpated by the routine bimanual examination.

Our experience in ovarian cysts is limited to those of larger size which can be readily palpated by a bimanual examination. The findings vary in proportion to the size of the tumor. It has been observed that in some instances the oil, in passing through the tube, will distribute itself around the border of the cysts, thus enabling them to be readily outlined on the roentgenograms. In cysts of larger size, where the tube is attached to the cyst wall and as a result is elongated and distorted, this peculiar type of elongation

is readily demonstrated by the shadow cast on the roentgenogram by the oil injected tube. As one would naturally expect, the uterine cavity is not distorted in these cases unless the cyst is of such dimensions as to encroach upon the body of the uterus itself. In our experience with this procedure in ovarian cysts we feel that its greatest practical value lies in its ability to differentiate ovarian cysts from soft uterine myomata.

ROENTGEN FINDINGS IN ENDOMETRIAL FISTULAE

The value of this procedure in this group of cases can readily be appreciated, as in any instance wherein the fistulous tract can be penetrated by the oil a clear cut picture of such tract can be demonstrated. One is thus enabled to determine the origin of the fistula as well as its true course. The use of this procedure in these cases, however, proves a little more uncomfortable to the patient, owing to the fact that more time is consumed to complete the injection and moreover the distention of the uterine cavity by the oil injected under sufficient pressure to penetrate the fistulous openings is necessarily increased.

Newell⁴ of St. Louis, has demonstrated the value of this procedure in the determination of the extent of injury done to the uterus in instances where foreign bodies have been inserted in an attempt to produce an abortion. If the wall of the uterus has been penetrated by this procedure, the exact location is readily demonstrated, and if the foreign body is still in the pelvis its relationship to the pelvic structures can be shown.

Included in our series are two cases which present a most unusual distribution of lipiodol in the usual regions of the ureters; one case having a unilateral, the other a bilateral distribution. The exact changes which give rise to these peculiarities are open to discussion, but in our opinion are most probably due to persistent Muellerian ducts. Slides made from the original roentgenograms demonstrate these peculiarities quite clearly.

Our report is based on a personal observation and a study of 250 injected uteri and the results obtained are sufficient, we feel, to recommend the employment of this procedure in properly selected cases.

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PHRENICO EXERESIS AND EXTRAPLEURAL THORACOPLASTY IN THE TREATMENT OF PULMONARY TUBERCULOSIS

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The basis of the modern sanatorium treatment of pulmonary tuberculosis is rest in bed, fresh air, sunshine, and an abundance of good food. By such treatment, especially if begun early, the progress of the disease is arrested in the majority of the cases and improvement is prompt and progressive. But some patients treated from the earliest onset of symptoms fail to improve or lose ground progressively. In a considerable proportion of the cases the diagnosis is not made until after the disease has become extensive and abscess cavities may already have formed. Some develop complications such as hemorrhage or empyema. For such cases pulmonary compression offers the best prospect of improvement and in a large proportion of them the only hope of a cure.

The object of all forms of surgical treatment is to collapse and compress the diseased lung in whole or in part and to obliterate secondary empyema.

The methods by which a complete pulmonary collapse may be achieved are artificial pneumothorax and extrapleural thoracoplasty. A partial collapse is obtained by phrenico exeresis and by pneumolysis. These methods differ as to indications, but are identical as to principle involved.

The fundamental principles on which pulmonary collapse is based may be set forth as follows:

1. Rest of the diseased lung. In the great majority of cases this is by far the most important end attained. When the patient with an active tuberculosis is kept in bed at absolute bodily rest a minimum of oxygen is required and the breathing is therefore slower and shallower than during bodily activity, but the diseased lung is not at rest. It is kept in constant activity expanding and contracting in volume with each respiratory cycle, say 18 times a minute, 1,000 times an hour, 24,000 times each day. The fluctuating intrapulmonary pressure incident to the change in lung

volume exerts a pump-like action on the lymph and blood stream accelerating this flow, washing the toxic products in the tuberculous process into the general circulation. It is these poisonous products which keeps up the fever and causes the loss of appetite and weight, night sweats, and other symptoms. The constant movement of the lung also tends to spread the tuberculosis bacilli through the avenues of the blood vessels and lymph channels. Increased cough incident to it tends to fatigue the patient and may spread the disease by drawing the bacilli laden sputum into uninvolved portions of the lung.

In the proportion as the lung is put at rest these harmful effects of the respiratory motion is reduced. Complete collapse means practically complete rest of the lung.

2. Pulmonary collapse makes possible complete scar tissue shrinkage of the lung. When a tuberculous lesion heals it does so by scar tissue formation similar to the scar tissue healing of a wound or burn. But under normal conditions the scar tissue shrinkage of the lung is limited by the unyielding nature of the chest wall and of the mediastinum. The sunken supra and infra clavicular fossae, the narrowing of the intercostal spaces, and increased downward slant of the ribs, and the shifting of the mediastinal structures towards the affected side, so often observed in chronic fibroid cases, constitutes irrefutable evidence of the effort of the lung to contract, and most convincing evidence of the need of mobilization of the lung in

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order that the scar tissue contraction may be complete, thereby the more completely encapsulating the tuberculous lesion. Not infrequently a complete dextrocardia or sinistocardia develops which may produce mechanical circulatory embarrassment, constituting in itself an indication for relief of tension on the mediastinum by surgical means.

3. Pulmonary collapse stimulates increased fibrous tissue formation in the diseased lung. It has been observed experimentally in animals that if a normal lung is kept in state of collapse for a prolonged period a generalized fibrosis results. In chronic empyema and after prolonged artificial pneumothorax collapse of the lung a similar generalized fibrosis has often been observed. Following thoracoplastic collapse of a bronchiectatic lung I have in three instances observed a similar condition. When one reflects that it is only by fibrous tissue formation that a tuberculous lesion is arrested the possible salutary effect of a pulmonary collapse in case of an active spreading lesion becomes easily apparent.

4. Tuberculous pulmonary cavities of any size may be obliterated only by an approximation of their walls secondary to lung collapse. Tuberculous cavities often attain the size of a hen's egg and may become much larger. They usually become secondarily infected with pyogenic organisms. When this occurs the absorption of pyogenic toxic products is added to those due to the tuberculosis infection. This absorption is increased by the stagnation of the pus so apt to occur in these rigid cavities. The harrassing cough incident to incomplete evacuation fatigues the patient and tends to spread infection to other portions of the bronchial tract. Such cavities can empty and heal only following the collapse of their walls with the involved portion of the lung.

5. Pulmonary collapse is the most effective method of arresting and preventing recurrence of hemorrhage. Profuse pulmonary hemorrhage that is not controlled by absolute rest and suitable medication demands pulmonary collapse. Even when it appears to be under control, uncertainty and anxiety as to its recurrence persists. If the bleeding is from an eroded vessel in the wall of a cavity, as is usually the case, the pulmonary collapse or compression serves the double purpose of arresting the hemorrhage and collapsing the cavity.

6. Healing of the major pulmonary

lesion by pulmonary collapse indirectly promotes healing of secondary tuberculous lesions elsewhere. Tuberculosis often affects both lungs and may involve almost any other organ or tissue together with one or both lungs. If the lesion in the other lung or other organ is mild and not progressive, the arrest of such secondary lesion is often observed after the more extensive diseased lung is collapsed and its process is arrested. I have observed cases in which a mild tuberculous laryngitis has entirely cleared up, and other cases in which all clinical evidences of a small cavity in the opposite lung have entirely disappeared following thoracoplasty. Beck has shown that if a tuberculous orchitis is induced in guinea pigs by injecting tubercle bacilli into the testicle and a secondary tuberculous arthritis is produced by similar means the tuberculous arthritis shows a tendency to heal in a much larger proportion of the animals following orchidectomy than in the control animals in which the diseased testicle is not removed. The favorable effect in the human suffering from two or more lesions is often observed following the removal of a tuberculous testicle, kidney or a tuberculous salpinx. Figuratively speaking, it seems that the body may be considered to possess a certain fixed number of defense units which may be deficient in number to cope with two or more separate lesions at one time, but with sufficient reinforcement to conquer the main lesion it is able to concentrate its own defense units on the remaining process and overcome it.

7. Pulmonary collapse reduces the menace of the tuberculosis carrier. Many patients with chronic pulmonary tuberculosis have so far overcome their infection that they are in fair general health. They may show but little loss of weight or strength and are able to be about, but continue to have a productive tuberculosis bacilli laden sputum. Such patients are a menace to society just as much as a typhoid bacillus carrier, leaving out of consideration the probability that sooner or later they are likely to develop a tuberculous enteritis or other lesion. Pulmonary collapse offers the only means of dealing with such cases.

The methods of surgical collapse are extrapleural thoracoplasty, phrenico exeresis and pneumolysis. As phrenico exeresis and pneumolysis result only in a limited amount of collapse as compared with artificial pneumothorax and thoracoplasty they will be considered only as auxiliary

to thoracoplasty. Artificial pneumothorax collapse is by common consent classed as a part of the medical treatment and its discussion therefore lies beyond the limits set for this paper. Inasmuch, however, as the principles involved are identical with those of surgical collapse and because the indications are so generally considered to be the same it may be in order to discuss briefly the relative indications for artificial pneumothorax and for thoracoplasty, the only surgical method in which the degree of collapse of the lung is comparable.

The general assumption among those interested in this field seems to be that if pulmonary collapse is indicated the method of choice is always artificial pneumothorax, that only in case adhesions prevent artificial pneumothorax collapse is thoracoplasty to be considered.

This assumption seems to be based on the fact that artificial pneumothorax collapse is safer, more complete, and more conservative, since there is a prospect of ultimate restoration of the lung to function. It also allows for re-expansion of the lung in case the collapse is for any reason not well tolerated. In short, pneumothorax is considered the treatment of choice, thoracoplasty the treatment of necessity in suitable cases, among those in which adhesions prevent adequate pneumothorax collapse of the diseased portion of the lung.

This doctrine seems to me far too sweeping. A more fundamental conception is that which takes into consideration the nature of the pathological process. Pulmonary tuberculosis in which lung collapse of any kind is to be considered may be subdivided into the active exudative type, the chronic proliferative fibrotic type, and a third mixed group. In the first, exudative type, pleuritic adhesions are less common, the patient is a relative poor surgical risk and there is always question as to the fate of the better lung. In such cases pneumothorax collapse, if it can be achieved, is the only method to consider. In case of the chronic fibrotic type, on the other hand, with marked evidence of fibrous tissue shrinkage, the opposite lung has proven itself by the test of time to be relatively intact and the patient is usually a relatively good surgical risk. Thoracoplasty, in my opinion, is then the treatment of choice irrespective of whether or not pneumothorax collapse is possible. In such cases the prospects of complete re-expansion of the lung are nil, the risk of ultimate secondary infection of a persistent

pneumothorax cavity considerable, and the hazard of thoracoplasty collapse is relatively small. Under such circumstances thoracoplasty, in my opinion, is the treatment, not of necessity, but of choice. Tersely stated, artificial pneumothorax collapse is the only treatment to consider at the one extreme, represented by the exudative type of lesion; thoracoplasty, the treatment of choice at the other extreme of chronic fibrotic lesions, but in the large group of cases between these extremes thoracoplasty is to be advised only after artificial pneumothorax has been tried and found wanting.

The indications for the two or three stage extrapleural thoracoplasty with the above reservations with respect to artificial pneumothorax may be enumerated under the following heads:

1. Chronic unilateral fibrosis phthisis.
2. Adhesions preventing artificial pneumothorax collapse of the diseased portion.
3. Persistently recurring sterile effusions.



Figure 1

I. L.—Pulmonary tuberculosis of the right lower lobe with cavitation. Roentgenogram showing small degree of collapse resulting from resection of the lower five ribs done elsewhere one year before thoracoplasty was begun.

4. Fixation of the lung in a collapsed position preventing re-expansion after pneumothorax treatment is completed.
5. Infected tuberculous empyema.
6. Excessive displacement of the mediastinal structures after healing of the tuberculous lesion.

7. Severe or recurrent hemorrhages in case adhesions prevent artificial pneumothorax.

1. *Chronic unilateral fibrosis phthisis.* Patients with this type of lesion usually have a chronic cough with more or less sputum containing tuberculosis bacilli.

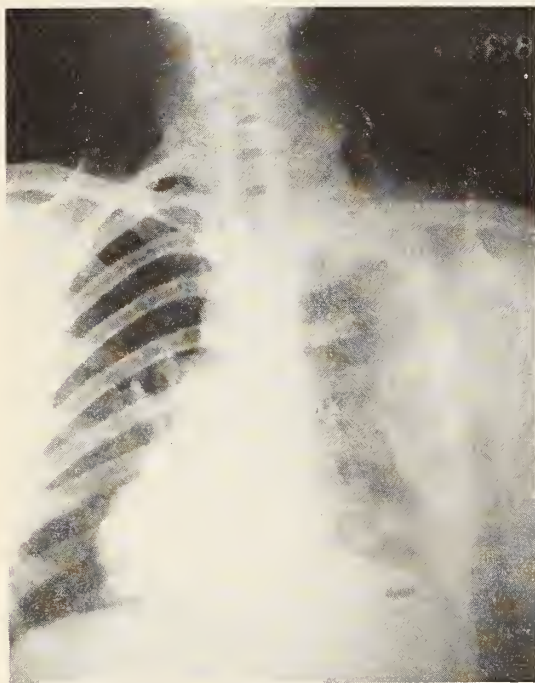


Figure 2

I. L.—Roentgenogram showing complete collapse resulting from resection posteriorly of the upper eleven ribs including resection of the regenerated lower five.

Their relative high degree of resistance is evidenced by good general condition after years of disease and by the marked fibrosis shown by the retraction of the chest wall, mediastinum, and in some cases the diaphragm, and also by the fact that the process remained localized essentially to one lung. The opposite lung, as a rule, does show evidence of some involvement in the nature of a few localized rales or dullness to percussion and increased density on the roentgenogram. Chronic unilateral involvement in the strict sense of the word is rare. What is meant by essentially unilateral involvement is that any lesion in the better lung must be localized, healed, or at least, quiescent. The majority of the 68 cases which form the basis for this paper were of this type.

2. *Adhesions Preventing Artificial Pneumothorax of the Diseased Portion of the Lung:*—Following artificial pneumothorax the roentgenogram frequently reveals a good collapse of the relatively less involved portion of the lung; usually the lower portion, but no collapse of the chiefly

diseased adherent apex. (Fig. 1). Even prolonged attempts at collapse of the adherent portion using positive pressure usually fails to achieve its collapse. Thoracoplasty is indicated in such cases. If the better lung has proven itself equal to the added respiratory load that the collapse of the healthy portion of the opposite lung involves, it may be assumed that thoracoplasty will be well tolerated by it. Some surgeons advise localized upper lobe thoracoplasty in such cases, but if any considerable portion of the lung gives evidence of involvement, complete thoracoplasty would seem to me the safer procedure.

In seven cases in this series thoracoplasty was performed following such incomplete artificial pneumothorax collapse. In six there was a complicating purulent effusion.

3. *Persistently Recurring Sterile Purulent Effusion:*—A large serous or hemorrhagic effusion should be replaced by air. A sterile purulent effusion may clear up under similar treatment, but usually it does not. (Fig. 1). Prolonged absorption from such an effusion leads to visceral

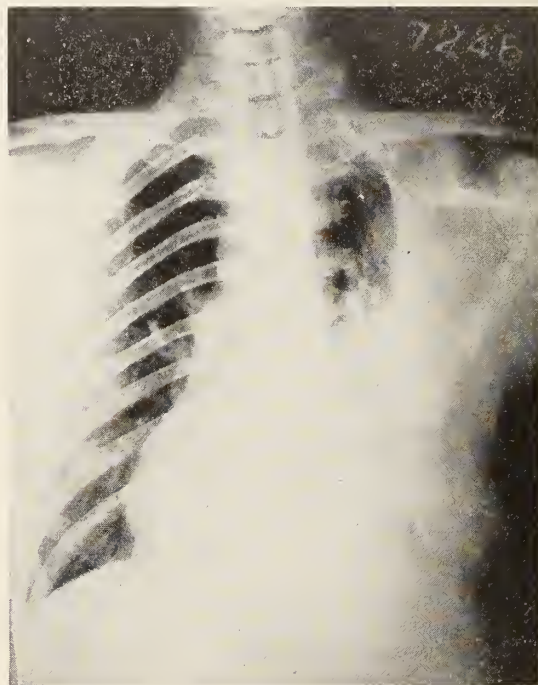


Figure 3

I. L.—Roentgenogram showing a relatively complete collapse of the involved lower lobe following complete costatectomy.

damage. There is always some risk of secondary infection which adds greatly to the difficulty and hazard of later attempt at obliteration of the cavity. Occasionally a sterile purulent effusion will perforate into a bronchus. In one such case in my experience the patient was drowned by the sud-

den exacuation of the pus into the bronchial tree. A marked grade of thickening of the pleura and of structural changes in the ribs incident to its cicatricial contraction is often observed in cases of long standing. Such effusions should be aspirated and the cavity obliterated by thorac-



Figure 4

E. V. L.—Bilateral pulmonary tuberculosis. Extensive involvement on the right before phrenico exeresis.

coplasty as soon as their chronicity becomes evident.

4. *Fixation of the Lung in Position of Collapse following Prolonged Artificial Pneumothorax Treatment:*—Such fixation is evidenced by failure of the lung to expand on stopping or lengthening the interval between pneumothorax refills. A negative tension develops, which may reach 30 centimeters or more of negative water pressure. A pleural effusion is likely to develop in such cases presumably from the cupping action of the negative tension. In one case in my experience, after five years of refills a negative tension of about 30 centimeters water pressure developed in three weeks after a refill. Eventually an effusion formed which became secondarily infected.

5. *Infected Tuberculosis Empyema:*—Secondarily infected tuberculosis empyema that follows “idiopathic” pleural effusion often do well treated as an ordinary empyema with a circumscribed plastic operation for the usual residual cavity. In any case, however, in which the lung on the af-

ected side is known to be tuberculous and particularly if the empyema is of long standing precluding any prospects of re-expansion of the lung, a double indication exists for thoracoplasty. These patients usually require preliminary treatment for the secondary pyogenic infection and often a complete costatectomy with resection of the parietal pleura is necessary for complete healing. Such cases fall under the relative indications for a multiple stage operation. In this series there were 14 cases of tuberculous empyema, 4 secondarily infected requiring multiple stage operation.

6. *Excessive Displacement of the Mediastinal Structures after Healing of the Tuberculous Lesion:*—Marked extensive fibrosis of one lung occasionally produces excessive displacement of the heart and other mediastinal structures towards the affected side. In four instances of this series a complete acquired dextrocardia was produced. Three of these patients had a tachycardia and dyspnoea, but showed no other findings suggestive of an active

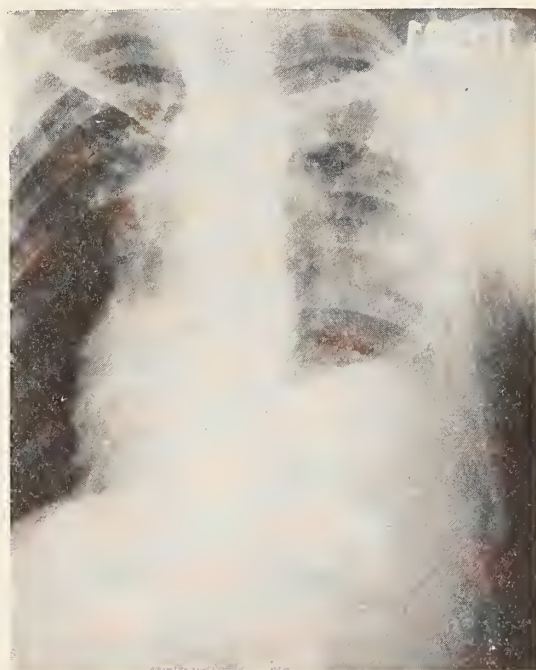


Figure 5

E. V. L.—Roentgenogram after phrenico exeresis. Patient gained sixty pounds in weight and is relatively symptom free two years following the operation.

tuberculosis. In such cases the symptoms seem to be chiefly of mechanical origin. Thoracoplasty resulted in marked relief of symptoms in these cases even though the displacement of the mediastinal structures in large part persisted.

7. *Severe or Recurrent Hemorrhage:*—

Repeated or profuse hemorrhage may necessitate thoracoplasty as a final resort if adhesions prevent artificial collapse even in cases which are relatively unfavorable for thoracoplasty. A localized thoracoplasty over the most involved portion or a pneumolysis should be the first step. In

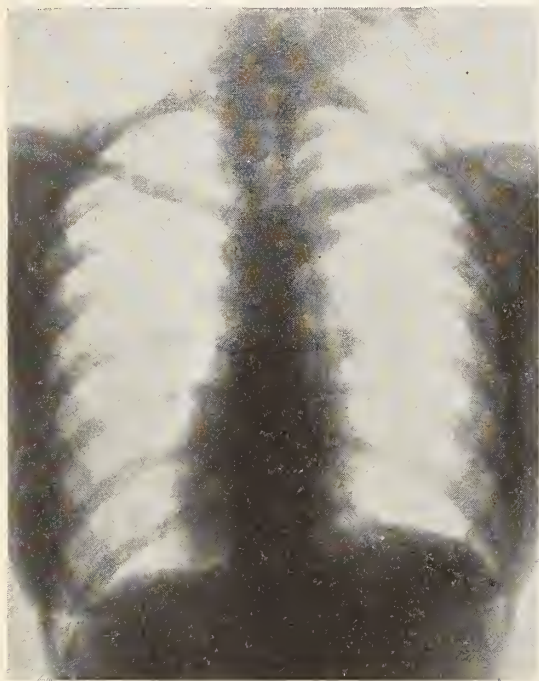


Figure 6

Mrs. C. H. M.—Right pulmonary tuberculosis. The roentgenogram taken during the incipient stage. Note heart in normal position.

a recent case the patient had repeatedly been exanguinated and in extremis and had been revived only by emergency transfusions. There was a question of a lesion in the other lung. He withstood a three-stage operation done at weekly intervals and was in better condition immediately afterwards than before the thoracoplasty was begun. Another patient belonging to the active exudative type of tuberculosis and with profuse hemorrhages came to operation with a pulse of 150 and in every way in poor condition. The hemorrhage was completely checked and the patient's improvement to date has been most remarkable.

RELATIVE INDICATIONS FOR A MULTIPLE STAGE THORACOPLASTY

By a multiple stage thoracoplasty is meant an operative collapse divided into as many stages as necessary and with as much time between the various sittings as the patient's condition may demand.

It is universally agreed by all who have had experience in this field that the proper choice of patients is most important, that

pitfalls may lead even the most wary to grief. Chronicity, fibrosis type of unilateral lesion and relatively good condition of the patient are emphasized as the prerequisite for reasonably good results. But such stringent indications, absolutely necessary as they are for a one or two stage operation, leave a large group in which operation is indicated in principle since pulmonary compression is desirable but pneumothorax collapse impossible on account of adhesions. For such cases a multiple stage operation offers a fair prospect of improvement, if not cure.

Among the types of cases in which such a procedure may be applied may be mentioned four groups as follows:

1. *Patient with Mixed Fibrosis and Exudative Lesions*:—Patients with such lesions typically have fever, increased pulse rate, and marked weight loss. They are usually bedridden at least in large measure. If there is evidence of fibrosis it is usually not well marked. Cases are observed, however, showing every evidence of a progressive lesion after years of fibro-



Figure 7

Mrs. C. H. M.—Roentgenogram taken eight years later showing very extensive right-sided involvement with complete dextrocardia. Patient in the terminal stages.

sis which may be of extreme grade, but the other lung remaining, clinically speaking, uninvolved. (Fig. 4). In 28 cases in my experience a multiple stage thoracoplasty (from 4 to 12 stages) was followed by improvement approximating a cure in 27. One died.

2. *Moderately Extensive Healed or Localized Quiescent Lesion in the Opposite Lung:*—In many cases the status of the better lung with respect to activity remains a matter of uncertainty. In such cases the ordeal of a one or two or even three stage operation may result in activ-



Figure 8

B. T.—Right lower lobe pulmonary tuberculosis following phrenic nerve resection.

ity when a more gradual collapse might have prevented it. Pneumonia process which may complicate thoracoplasty is, in my opinion, more likely and of more serious consequence than if the patient has been kept in fairly good condition by a more gradual collapse.

3. *Extra-Thoracic Tuberculosis of Mild Grade or Non-Tuberculous Disease:*—Many patients give a history and findings suggestive of a mild degree of peritoneal tuberculosis or there may be a mild lesion in the larynx, the kidney, bone, or elsewhere. Such patients may be in relatively much poorer condition than appearances indicate and a minimum operative procedure may be withstood when a more extensive operation would result in complications.

4. *Childhood and Advanced Age When Operation is Otherwise Indicated:*—The advantages of a several stage operative procedure here is obvious. By lessening the gravity of the ordeal the indications may be extended beyond the ordinary age limits.

CONTRA-INDICATIONS

The contra-indications to thoracoplasty

of any type may be stated catagorically as follows:

1. Rapidly progressing unilateral lesion: It must be emphasized that unilateral involvement in itself does not constitute an indication for thoracoplasty. (Fig. 17).

2. Active progressive tuberculosis in the opposite lung: As stated it may be very difficult to decide whether or not a lesion in the better lung is quiescent or active. The collaboration of an internist who has followed, or who will observe the patient for a sufficient period of time to determine this point, is essential.

3. Active or extensive extra-pulmonary tuberculosis: Anyone who has observed the necropsy findings showing involvement of visceral organs far more extensive than clinical findings would indicate will have been impressed by the necessity of not under-rating the significance.

4. Conditions contra-indicating any major surgical procedure: While each step of the multiple stage operation is in itself hardly to be classed as a major pro-



Figure 9

B. T.—Roentgenogram showing incomplete collapse of the lung after completion of the posterior thoracoplasty.

cedure, the combined effect of the stages should be so considered. Some patients are in too poor condition to withstand even a first stage operation.

THE ESSENTIALS OF OPERATIVE TECHNIQUE

The most important features of the operative procedure seem to me to be the following:

1. Rigid asepsis: Patients with pulmonary tuberculosis as a group withstand secondary infection badly. If a one or two stage operation is performed, a very extensive field is involved. If a multiple stage operation is performed and infection occurs following any one of them, the operative field of the later stages will also become infected. The asepsis should be as rigid as for a brain or bone graft operation. Operative trauma should be reduced



Figure 10

B. T.—Complete collapse of the lung after complete costatectomy.

to a minimum and hemastasis as complete as possible. Drainage is a lesser evil than the risk of infection in an undrained wound with serous accumulation. I employ a buried drain having only a piece of catgut tied to the end of the drain protruding through the skin. The drain is removed completely in 24 to 48 hours.

2. Efficient regional anesthesia: Local and nerve block anesthesia is a very important safeguard, particularly in case of patients having a large amount of cough and sputum. Combined with morphine and scopolin, the operation can often be completed without any general anesthesia. If the surgeon prefer to operate under general anesthesia, a much smaller amount of general anesthesia is required if combined with regional infiltration and nerve block. If general anesthesia is used, my preference is for ethylene as the most effective non-irritating anesthetic available. I consider the use of ether as adding unwarranted additional risk.

3. Resection of the first to and including the eleventh ribs for a complete thoracoplasty: One occasionally sees a patient who has had an incomplete operation with incomplete collapse and unsatisfactory result. The resection of the first rib is not particularly difficult or hazardous, provided adequate exposure is secured and

the periosteum is completely separated all around the rib before resecting it.

4. Resecting the ribs flush with the transverse process: If segments are left protruding beyond the transverse processes the collapse is less complete.

5. Resection of sufficient length of the ribs to secure adequate collapse: In many cases the mobility of the ribs had been so much reduced by a prolonged fibrous retraction, the ribs so thickened and changed in direction and the pleura so stiffened by a chronic pleural effusion that the resection of a relatively much larger segment is necessary for a satisfactory collapse than is necessary for an ordinary case. Generally speaking, the longer the segments removed, the better the collapse. The tendency to mediastinal flutter is rarely seen even in case very long segments are resected in the course of a three or more stage operation. This is an important advantage in the multiple stage operation.

6. The number of stages and interval between them should be according to the

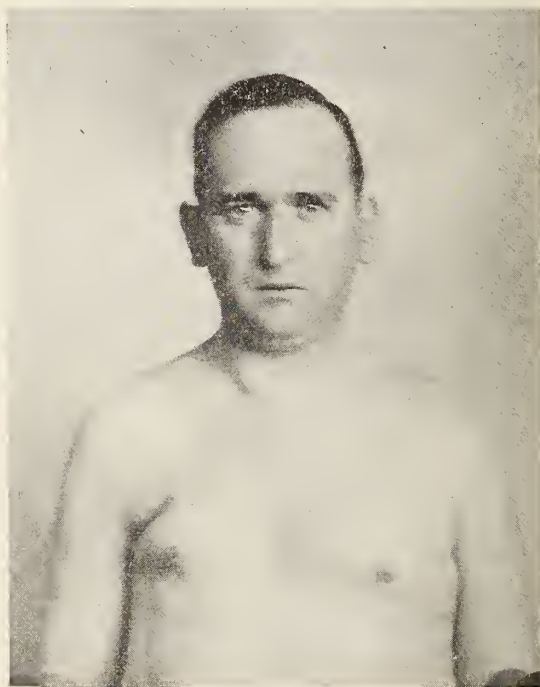


Figure 11

B. T.—Photograph of the patient taken two years after completion of the operation. Patient symptom free except for dyspnoea on exertion. Gainey ninety pounds.

condition of the individual patient: It seems to me wrong to try to standardize the operative procedures for the treatment of a diseased condition which is subject to such a variety of pathological changes and which gives such a wide range in the condition of the patient. To do so leads in-

evitably to a tendency to fit the patient to the operation, which is wrong in principle.

My practice has been to perform a three stage operation at intervals of a week as a routine procedure in the cases constituting the best surgical risks. In case of patients at the other extreme, concerning

as an adjunct to thoracoplasty. As such it may be used—(1). As a test operation; (2), preparatory to thoracoplasty; (3), to improve the collapse following thoracoplasty.

As a test operation it is particularly useful in detecting any tendency to respiratory incapacity of the better lung, particularly in case of patients with low vital capacity readings. One of my patients with a chronic inactive tuberculosis died of respiratory insufficiency a few days following phrenico exeresis. Preparatory to thoracoplasty the operation may be surprisingly effective. One patient who had had constant fever for a year and had been bedridden most of that period, became afebrile and almost free of cough and sputum ten days after phrenico exeresis. Another patient improved so much that thoracoplasty has so far seemed unnecessary. (Fig. 14).

It seems reasonable to assume that phrenico exeresis will result in a more complete pulmonary collapse in any case and therefore worthwhile in case of any patient in whom thoracoplasty is indicated.

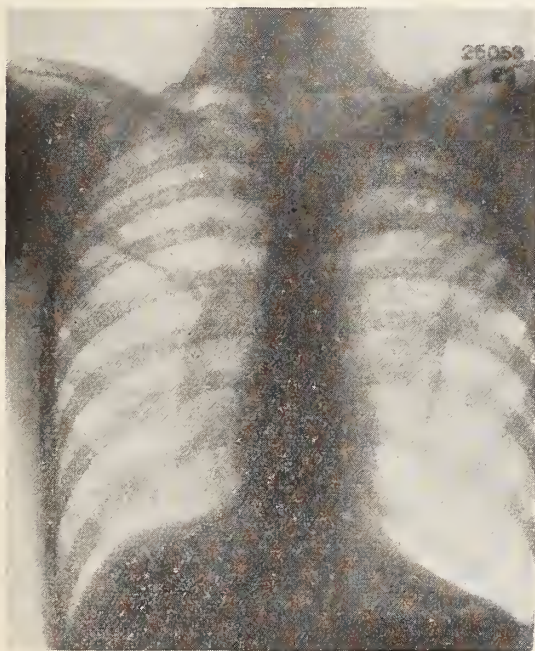


Figure 12

C. C.—Roentgenogram showing right upper lobe pulmonary tuberculosis lower lobe partially collapsed by artificial pneumothorax. Patient had been in sanitarium for five years.

whom there is considerable uncertainty, segments of two ribs are resected at the first stage and the extent of the later stages is gauged according to the patients' reaction to each preceding stage. In many of these cases it is necessary to wait two or even several weeks between stages and this may be absolutely necessary if infection develops.

7. Total costatectomy, if necessary, to effect an efficient collapse: In case of multiple stage operations, particularly if several weeks have intervened between the several stages sufficient callus and regeneration of the first resected ribs results to prevent an efficient collapse. In such cases a complete costatectomy can be performed with relative ease and safety and this procedure has always, in my experience, resulted in a degree of collapse as complete as following the most favorable one or two stage operation. In case of chronic empyema with complete collapse of the lung it is usually necessary to resect also a portion of the thickened parietal pleura over the residual cavity.

Phrenico exeresis is a useful operation



Figure 13

C. C.—Incomplete collapse of the upper portion of the lung following posterior extrapleural thoracoplasty.

It seems especially indicated in case of lesion at the base and in extreme retraction of the mediastinum.

Pneumolysis as an adjunct to thoracoplasty has a limited field of usefulness for collapse of cavities that have remained after extensive thoracoplasty. In two such

cases in my experience both with persistent hemorrhage after thoracoplasty the hemorrhage was virtually eliminated by a muscle plastic over the cavity.

During the last three and one-half years I have performed an extrapleural thoracoplasty on 68 patients with pulmonary

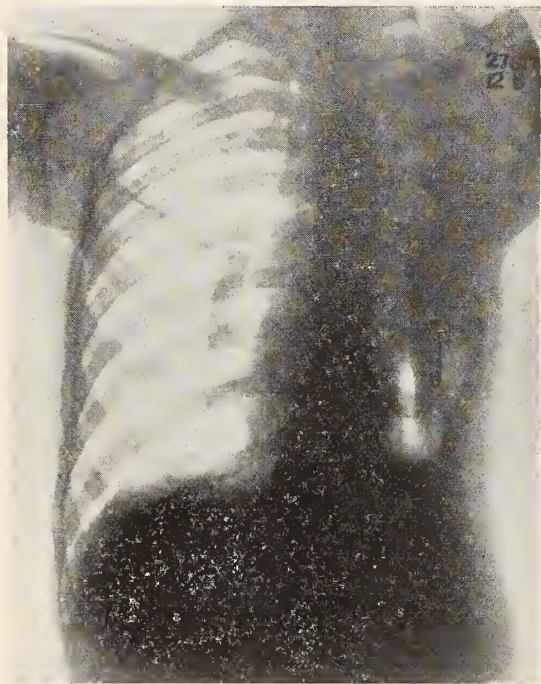


Figure 14

C. C.—Complete collapse of right lung following complete constatectomy. Patient has remained symptom free, gained forty pounds in weight and is back at work.

tuberculosis. Forty-two were males, 28 were females, 30 were between 19 and 30 years of age, 30 between 31 and 40, and 8 between 41 and 50 years of age.

The probable duration of the disease was under 1 year in 1, between 1 and 2 years in 25, $2\frac{1}{2}$ to 5 years in 18, 6 to 10 years in 19, and more than 10 years in 5. Of the last 5 the probable duration was 10 years in 2, and 12, 13 and 16 years respectively in 3. From these figures it may be noted that the duration of the disease was under 2 years in about 38 per cent, and more than $2\frac{1}{2}$ years in about 62 per cent.

The sputum was large in amount, varying between 6 and 12 ounces in about 25 per cent. Hemoptysis was present in some degree in half the cases. In 8 it had been profuse. Fourteen had hemoptysis without cavity signs.

Marked weight loss—30 to 60 pounds was present in 9. One patient had lost 100 pounds.

The right lung was involved in about 35 per cent, the left lung in about 65 per

cent. In these cases in which the disease could be definitely localized it was found to be in the apices, except in two cases it was localized in the right lower lobe and in three in the left lower lobe. Diffuse pleuritis and lung changes prevented localization in 6 cases in which the right lung was involved and in 16 in which the left lung was involved. Cavity signs were elicited at the apex in 24, at the base in 3, and in the middle portion of the lung in 1.

The heart was more or less displaced towards the affected side in a large proportion of the cases. In four there was a complete dextrocardia.

There were indications of involvement in the better lung in the form of rales, dullness to percussion, and increased density in the roentgenogram in 34 (50 per cent) of the cases. Such findings were localized in the upper part of the lung in 29, the middle portion in 4, and the base in 1. In one patient no evidence was found clinically, but necropsy showed a caseating tuberculosis of the better lung.

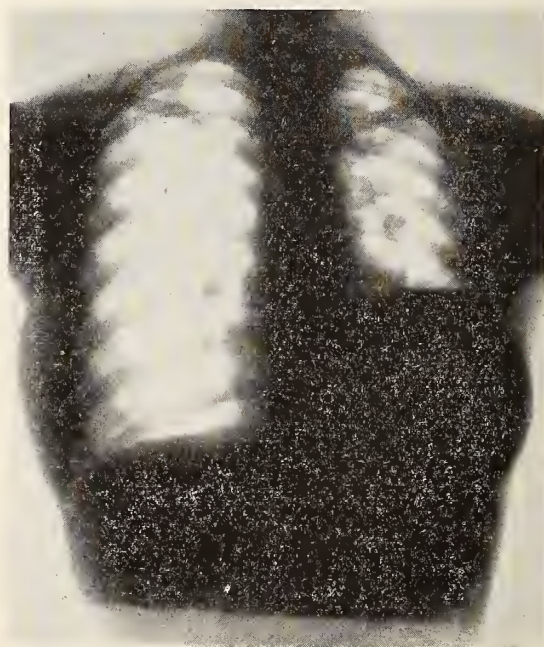


Figure 15

V. Z.—Left-sided pulmonary tuberculosis left upper lobe. Incomplete pneumothorax collapse of the lower lobe with tuberculous pyopneumothorax. Patient had been in sanitarium under treatment for two years.

An artificial pneumothorax had been attempted, but proven entirely unsuccessful in 8, an incomplete collapse was obtained in 13, and a complete collapse had been achieved at some time in the course of the illness in 18. Three of these patients presented themselves with a serous

effusion and 14 with an empyema following such pneumothorax treatment. One other patient had a serous effusion and 3 an empyema. A spontaneous pneumothorax with empyema had developed in 1. In 8 of the empyema cases drainage for the residual empyema had been instituted.

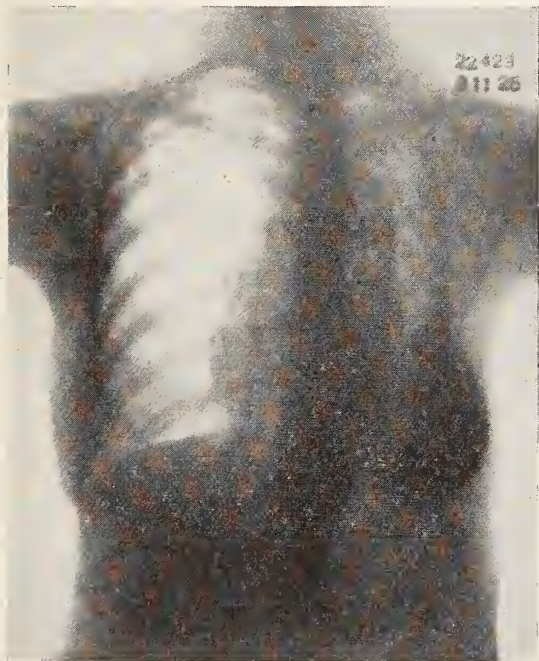


Figure 16

V. Z.—Roentgenogram following completion of posterior thoracoplasty.

A phrenico exeresis was performed preliminary to thoracoplasty in 28. Seven of these showed remarkable improvement in the course of a month following this operation. One patient who had been bedridden and continuously febrile for a year, became afebrile in 10 days. Six months after the thoracoplasty she is symptomatically entirely well and has gained 40 pounds. Another patient improved so much following preliminary phrenico exeresis that a thoracoplasty did not seem indicated. (Fig. 14).

A typical posterior thoracoplasty was performed in two stages in case of five patients, in three stages in forty-eight, in four stages in nine, in five stages in one, and in seven stages in one. The collapse was insufficient in twelve patients, in some because of a large pneumothorax or empyema cavity, in others because of a persistent uncollapsed pulmonary cavity, with much cough and sputum or hemorrhage. A complete extrapleural costatectomy was performed in these in cases in two stages in seven, in three stages in three, in four stages in one, in five stages in 1. The collapse following this second

dary complete costatectomy was as complete as following the most successful result of posterior thoracoplasty. (Fig. 6, 10, 13).

Shock followed in spite of a several stage posterior thoracoplasty in 13 patients. In case of several of these the operation involved the resection of only two or three ribs.

Wound infection developed after one or another stage in 12 patients. One patient nearly died from it. In several the further stages were delayed to such an extent as to make the ultimate degree of collapse less complete than it would otherwise have been. One developed a persistent osteomyelitis following the wound infection. During the last year, after the use of a buried drain, removed in about 48 hours, there has been no frank purulent infection.

Other complications were hemorrhage into the pleural cavity in one, and hemoptysis in one, pleural effusion in one, dyspnoea in five, symptoms suggesting a pneumonia in the opposite lung in four, of a pulmonary abscess in one, a pleural effu-

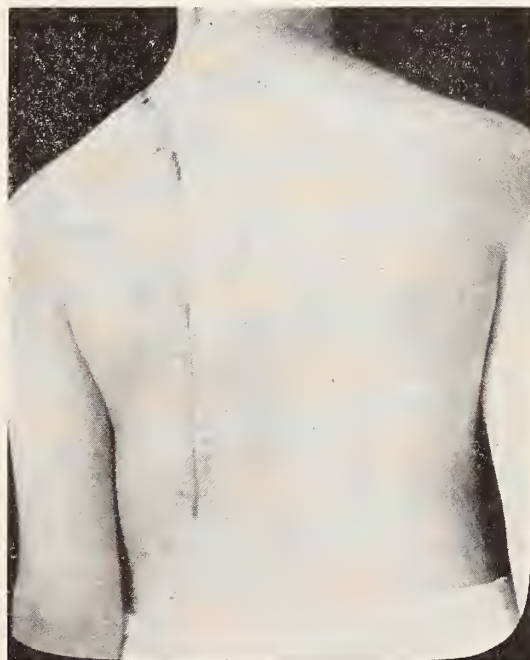


Figure 17

V. Z.—Photograph showing line of incision—three stage operation. Note relatively small degree of deformity.

sion in the operated side in one, and sputum of a pre-existing sterile tuberculosis empyema in one.

There were three deaths within three weeks following operation, giving an operative mortality of 4.4 per cent by patients and 1.3 per cent by operation. One died

suddenly the second day after a fourth stage operation following sudden onset of dyspnoea and cyanosis, one on the third day after a second stage operation following a perforation into the bronchial tract of a sterile tuberculous empyema. Necropsies were not allowed in either of them.

The third patient died after the first stage resection of two ribs. Necropsy revealed a caseating process in the opposite lung and a tuberculosis peritonitis. A loss of weight of 100 pounds, marked weakness and a progressive downward course should have been sufficient to preclude operation in this case, even though the secondary lesions were overlooked, but it should be emphasized that at least a third of the total series of patients were relatively poor risks even for a several stage operation, and some of the most gratifying results

were obtained in case of some such patients.

The total number of deaths from the time of operation to the present, including the above three, is 6, or 8.8 per cent. One patient who died from an automobile accident a year after operation, and who had been practically symptom free up to the time of the accident, is not included in this mortality series.

Of the 60 who survive, 2 were not improved. All the remaining were improved in varying degree approximating a complete symptomatic cure. Many of them have returned to their former occupations and are living normal lives. Of 21 of these patients, operated upon during 1925 and 1926, all are living, none have any symptoms of an active tuberculosis. Fourteen of them have resumed their former occupations.

PROF. CLEMENS FREIHERR VON PIRQUET

Professor Clemens Freiherr von Pirquet died in Vienna on February 28th, 1929. By his death the University of Vienna has lost a distinguished professor and a rare personality, remarkable for his catholicity of interests and sympathy which knew no barriers of race, religion or nationality.

He was born in 1874 of a noble family, and his early education was originally destined to fit him for the church. This plan, however, was abandoned. Later on he graduated in medicine at the University of Vienna and shortly afterwards became assistant to Professor Theodor Escherich, then director of the Vienna Kinderklinik. His early scientific work was devoted chiefly to bacteriology and immunity and during this period he made important researches on serum sickness and on the immunological reactions following infection with tuberculosis. These studies led to the publication in 1907 of the skin test for the diagnosis of tuberculosis which bears his name. The analogous work on diphtheria carried out by his colleague and famous pupil, Schick, owed much to von Pirquet's teaching and example. In 1908 von Pirquet accepted an invitation to the Chair of Pediatrics in Baltimore. Here he remained only for about eighteen months when he returned to Austria and accepted a position in Breslau. This he resigned in 1911 to become successor to his old chief, Theodor Escherich, as

Director of the Kinderklinik in Vienna. The magnificent Universitat Kinderklinik was just completed when von Pirquet took up his new duties there. It would be hard to find an institution where research was combined so perfectly with care for the welfare and happiness of the sick children and with an affectionate consideration for the medical and nursing staff in every ward. It has been said that von Pirquet transformed the ward maids into nursing sisters, and many of the latter into scientific colleagues who enabled him to carry on a most important series of investigations upon human nutrition. His researches upon the nutritive requirements of the superintendent in providing the surgeon with a drug whose purity he cannot himself safeguard. Even with such precautions, however, hospital superintendents should be careful not to store ether for too long a period, and above all should make sure that no ether be used for anaesthesia whose container has been opened for more than twenty-four hours. It is generally agreed that the passing of ether gas through water removes the impurities mentioned, but this procedure should not be substituted for efforts to secure the drug free of these harmful substances, not only at the time of manufacture, but after varying periods of storage.—*Canadian Medical Association Journal*.

FIND HOME-MADE LIVER EXTRACT EFFECTIVE AS ANEMIA CURE

A liver extract that will be effective in treating pernicious anemia can be made at home with very little effort, Dr. William B. Castle and Morris A. Bowie of Harvard University Medical school have reported to the American Medical Association. This will prove a great boon to sufferers from this disease who are unable to afford the high price of the commercial liver extracts or of the more palatable calves' liver. Eating half a pound of beef liver a day soon becomes a tiresome ordeal, yet this has been the only chance for life and health for many of the poor who suffer from pernicious anemia. The domestic extract is as effective as the commercial ones and may be made in the ordinary kitchen by any reasonably intelligent person, the Harvard scientists

declared. Only the usual domestic utensils are needed. The cost of the beef liver is practically the only cost. The extract is palatable and may be drunk hot or cold, with or without salt. It is said to taste something like beef broth.

The process of making it consists, in general, of grinding the liver, soaking it in cold water, straining, heating and restraining. The ordinary meat grinder, strainer, enamel pots, glass jars and jelly bags found in most kitchens are the only utensils required. The success of the procedure depends on the care and exactness with which the directions for the various steps in the process are followed. Dr. Castle and Mr. Bowie gave these in detail in their report.—*Science Service*.

MALPOSITIONS OF THE PELVIC ORGANS*

EMIL D. ROTHMAN, M. D.**

DETROIT, MICHIGAN

I—INTRODUCTION

Variations from the normal ideal anatomical position of the pelvic organs are among the most frequent findings in gynecological examinations. An attempt will be made in this paper to explain the mechanics of this condition, an understanding of which is essential to intelligent therapy.

The uterus lies between the bladder and rectum and any change in its position will produce more or less malposition of the other two organs. Hence, except for general remarks, I shall consider the uterine malpositions only.

II—CONGENITAL MALPOSITIONS

Changes in uterine position may be either congenital or acquired. About 20 per cent of all gynecological cases show a retroversion of the uterus. A large number of these are seen in normal women—nulliparous, without any previous inflammatory condition—and these will be found symptomless and correction of the malposition with a pessary will not alleviate the symptoms occasionally found. These are entirely an orthopedic problem.

This type of malposition must be recognized as not merely confined to the uterus, but also to the entire pelvis and its contents. These patients present a complete skeletal change, which Dickinson and Truslow (Jour. A. M. A. 1912, vol. lix.) call the "gorilla type". "The pelvis is rotated backward and downward, the plane of its inlet making with the horizon and angle more acute than normal."

In normal pelvises, the axes of the abdominal and pelvic cavities form a 60-65 degree angle.

In this type the center of gravity passes through the important pivotal points, the pelvis is balanced in equilibrium on the heads of the femurs, and there is an absence of muscular and ligamentous strain due to the perfect equilibrium. The rear perpendicular touches the middle of the back and the buttocks.

Here we see the two general types of deviation from this normal. A is the so-called kangaroo type of posture. The pivotal structures of the trunk are anterior to the line of gravity and those of the lower extremity posterior. The pelvis is rotated forward-downward, its angle with the vertical being more obtuse than normal

—about 75 degrees. The lumbar curve is accentuated, the trunk being carried forward, a strain is placed on the spinal and pelvo-spinal ligaments and muscles and tends toward anterodeviation of the ab-

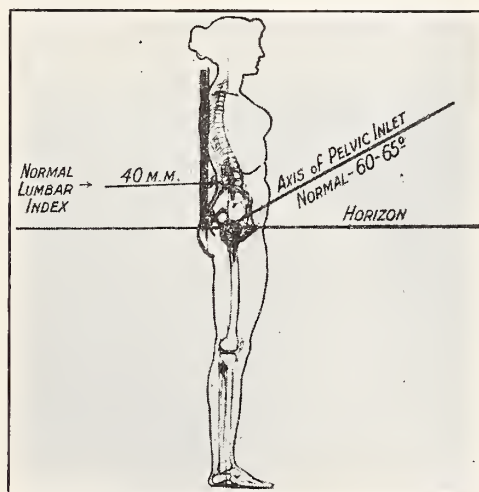


Figure 1

Normal type of posture. (From Dickinson and Truslow).

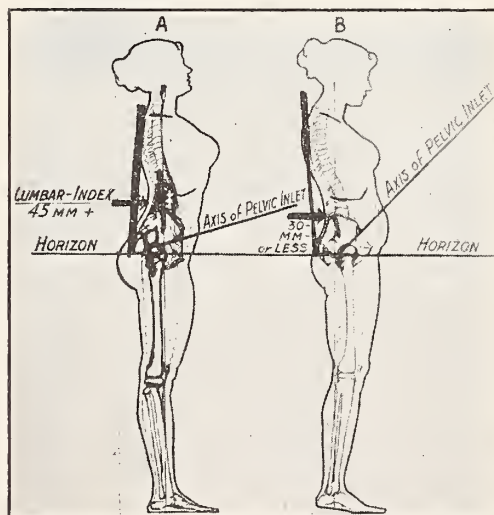


Figure 2

A—Kangaroo type of posture.
B—Gorilla type of posture.

Wavy lines indicate relaxed muscles, dotted lines contracted muscles. (From Dickinson and Truslow).

* This paper was presented to the Section on Gynecology and Obstetrics at the Annual Meeting of the Michigan State Medical Society held in Detroit, Thursday, Sept. 27, 1928.

** Dr. Emil D. Rothman is a graduate of the Detroit College of Medicine and Surgery, 1921. He worked in New York City Hospital under the late Dr. Chas. G. Child, Jr., and was associated for five years with Dr. B. Friedlaender of Detroit, and is now confining his time to gynecology.

dominal and pelvic viscera. The anterior muscles of the thighs are relaxed as are also the muscles of the back, while the abdominal muscles and those on the rear of the thighs are contracted.

B shows the gorilla type. The sacro-lumbar angle is flattened, and the axis of the pelvis more nearly approaches the vertical, the angle being about 45 degrees. The pivotal structures of the trunk are behind, and those of the legs are in front of the line of gravity, the patient appearing to slouch. The pelvis is rotated backward-downward and again there is a strain on the ligaments and muscles of the spine and pelvis. The abdominal and pelvic organs have a tendency toward retrodisplacement. The muscles of the abdomen and back of the thighs are relaxed, those of the back and front of the thighs contracted. The chest is sunken and the abdomen protrudes.



Figure 3
Measurement of lumbar index. (From Sturmdorf).

These are, then, the three common types met with. Careful study has shown that in the gorilla type a retroversion may be expected in almost all cases. Sturmdorf has used this study for a determination before vaginal examination of the normal uterine position in the patient observed.

The patient stands in her normal standing position, with the back exposed. A ruler is held vertically in contact with the most prominent curve. With a millimeter rule the distance from the deepest point of this hollow to the edge of the vertical ruler is taken, and the number of millimeters is the index for the patient.

Sturmdorf found this index to vary from

12 to 45 mm. An index over 45 mm. indicates a pathological lordosis and is, of course, of obstetrical rather than gynecological importance. Forty mm. may be considered the normal index, with a minimum of 30. Below 25 mm. indicates a gorilla type and retroversion is the normal position of the uterus in such cases.

In the absence of inflammation, a congenitally retroverted uterus will resume its state of retroversion after delivery.

As the gorilla type is quite a common finding, it can be observed that about 50 per cent of retroversions are in women of this type, and must, therefore, be considered congenital.

The exceptions found to this rule can be explained by deformities of the pelvis only, such as high sacral promontory, or a recession of the pubes or by a strained position of the patient during measurement. Also, some of this type have acquired anteversions from some pathological condition.

Attempts at restoration of the uterine position in these cases, or of the treatment of the symptoms produced, is entirely orthopedic, rather than gynecological.

III—ANATOMY OF THE PELVIS

Support of the pelvic organs depends principally upon the pelvic diaphragm, together with ligaments and smaller fasciae for each organ.

The phases of human life constitute a motor unit muscle covered by two fascial sheaths, the reto-vesical and the anal, or levator. This is the important structure in pelvic support. The levator arises from the posterior surface of the pubis anteriorly, from the ischial spine posteriorly, and between these from the white line that marks the division of the pelvic fascia. The

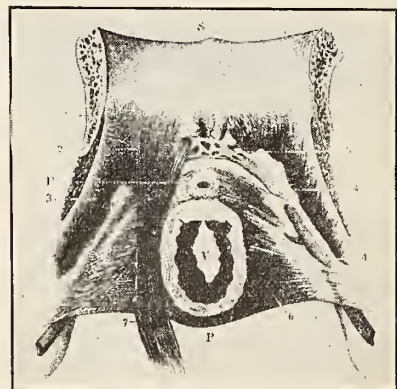


Figure 4
Origin of Pubo-coccygeus.

S—Symphysis. U—Urethra. V—Vagina. P—Perineum.
1—Pubovesical ligament. 2—Origin of pubococcygeus. 3—
Iliococcygeus. 4—Internal pudic vessels. 5—Urethral plexus.
6—Upper surface of pelvic diaphragm. Pubococcygeal loops
of the levator ani. (From Sturmdorf).

muscle is, in reality, divided into three parts: the posterior portion or iliococcygeus; the upper anterior, or pubococcygeus, and the lower or superficial anterior called the puborectalis. The iliococcygeus is very thin and is almost functionless. The others are strong, powerful bands.

The pubococcygeus arises from the pubis and white line and is inserted into the median raphe, while the puborectalis arises from the pubis and inserts into the rectum.

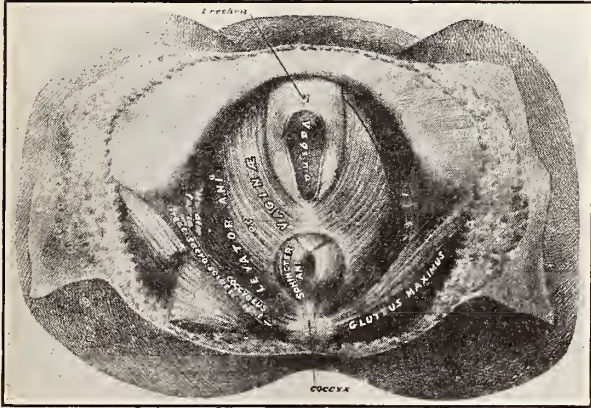


Figure 5

Anatomy of the female perineum. Exposal of the levator ani muscle after removal of the levator fascia.

All three bands on either side merge together at the median raphe, surrounding the vagina and anus in separate loops. The muscles with the two fascias hold the lower vagina and rectum close to the symphysis pubis and form a sling which closes the pelvic outlet and supports the organs above. The median borders, which can be felt through the lateral vaginal walls, form a V-shaped interspace which encloses the entroitus under the pubic arch and is called the levator cleft.

As has been stated, the rectovesical and levator fascias meet at the white line where they continue as the pelvic fascia, which in turn continues as the transversalis fascia. Medially the fascias fuse at the levator cleft. Caudad to the levator fascia and anterior to the anus is the triangular ligament enveloping the deep transverse perinei muscles. Superficial to this ligament are the superficial transverse perinei muscles and the smaller perineal muscles, covered by the superficial perineal fascia.

This structural arrangement is significant in pelvic repair, as all these muscles, with the exception of the levator ani are unimportant for support of the pelvic contents, and perineorrhaphy, to be successful, must unite the levators themselves.

IV—BIRTH INJURIES

During labor, the descending head stretches the muscular sling about the vagina, between it and the rectum posteriorly and bladder anteriorly, producing small or extensive lacerations within the muscles themselves. This occurs regardless of the presence or absence of visible or external lacerations. As healing takes place, scar tissue forms within the muscle bodies, and lack of the normal tone ensues, so that the sling about the vagina becomes slack. There is also a median separation of the two levators, approximating more or less the vagina and rectum, and bringing the bladder down from its normal position in relation to the fundus.

With this relaxation, intra-abdominal pressure tends to push the pelvic organs out through the vaginal expulsive plane and rectocele, cystocele, retroversion and descensus result.

V—INTRA-ABDOMINAL PRESSURE

Let us now consider the mechanism of intra-abdominal pressure and its role in the production of malpositions.

Intra-abdominal or intra-peritoneal pressure depends upon atmospheric pressure, gravity, the pressure of the contents of the viscera and the contraction of the abdominal and perineal muscles. Atmospheric pressure and gravity are, of course, constant, but the intravisceral pressure and muscular contraction are variable and constantly modify the intensity of intra-abdominal pressure.

By intravisceral pressure we mean the increased pressure due to a full stomach, bladder or other viscus. Muscular contraction includes not only the motion of the abdominal and perineal muscles, but also of the diaphragm. By this mechanism it can be seen that each body motion and even each breath or heart beat modifies intra-abdominal pressure. Each increase in this pressure has a natural tendency to extrude the pelvic viscera in the direction of least resistance. It would seem, therefore, that prolapse of the rectum, uterus, and bladder should be more common than is actually so. Another mechanism must be explained which counteracts this force.

Pressure directed against a resistant plane is deflected in a definite direction depending upon the angle of the plane. It is thus that gravity is conquered by the wings of an aeroplane, or the direction of the current is shifted by the rudder of a boat. As a result of this deflection by the pelvic and abdominal organs, the force of

gravity and intra-abdominal pressure is so reduced that a pressure of 80 mm. in the abdomen is only 60 mm. at the cervix, 40 mm. in the vagina, and 20 mm. at the entrance.

The entire abdominal cavity consists of a compound deflecting chamber of multiple planes, some fixed and some mobile, which deflect pressure at varying angles to each other.

The bony framework of the pelvis presents fixed planes which tend to deflect pressure in the line of the axis of the pelvic outlet. They may be considered expulsive planes. Any viscus which falls into the line of this plane will prolapse. The uterus, bladder and broad ligaments tend to deflect away from this expulsive plane and are therefore retentive planes. In the same way the surfaces of the intestines and mesentery deflect pressure from the vertical, reducing it as it centers upon the pelvis.

The true vertical in an erect abdomen comes in contact with the anterior aspect of the lumbo-sacral angle and impinges upon the posterior surface of the symphysis. It thus strikes the posterior surface of the normally anteflexed uterus. This

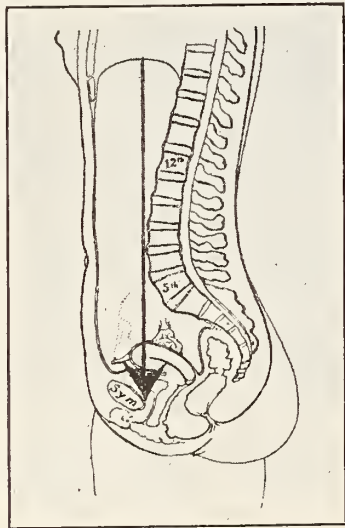


Figure 6

The vertical line represents the initial direction of intra-abdominal pressure at the pelvic brim. (From Sturmendorf).

vertical is thus anterior to the fulcrum of the uterus, and anterior to the true pelvis. The pelvic cavity is thus a separate hollow in the posterior abdominal wall, whose roof is the sacrum from which the uterus is suspended by the sacro-uterine ligaments. The posterior pelvic wall is higher than the anterior (the symphysis) usually about $3\frac{1}{2}$ inches. The intra-abdominal pressure is directed upon the uterine fundus which lies upon the bladder and pubis.

The uterus is lever-like, supported at its fulcrum by the pubococcygeal segments of the levator ani and their fasciae. The cervix is the short arm of the lever and the fundus the long, intra-abdominal arm. The fundus is limited in its mobility posteriorly by the round ligaments and anteriorly by the bladder and pubis.

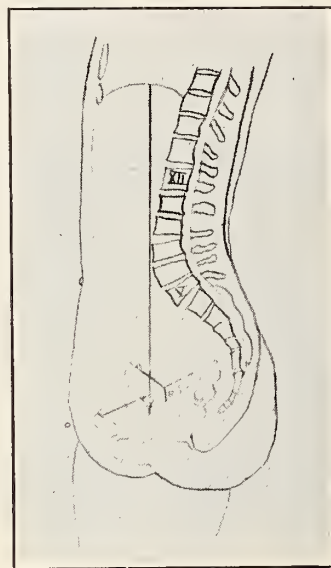


Figure 7

Showing the effect of intra-abdominal pressure in elevating the cervical arm of the lever after complete depression of the long uterine arm.

The vertical falls upon the uterine fundus and intra-abdominal pressure depresses this long arm until its motion is stopped by the bladder and pubis. The pressure then acts upon the cervix, or short arm of the lever, depressing it and tending to retrovert the fundus and push it into the sacral expulsive plane. However, the lowering of the cervix produces a contraction of the levator ani which tends in contraction to elevate the level of the pelvic floor. This raises the fulcrum and consequently the cervix, until it is again on a level with the fundus, restoring the normal anteversion.

At the same time the utero-vaginal angle is made more acute, the vagina is correspondingly narrowed and the pelvic outlet closed. Every increase in pressure is thus counteracted by an increased contraction of the levator ani and pelvic stability is maintained.

In other words, the levator ani diminishes the force of intra-abdominal pressure upon the pelvic organs by deflecting its direction, and obstructs the pelvic outlet by compressing the vaginal canal. It is thus antagonistic to the abdominal muscles and diaphragm, contracting when they contract and vice versa.

VI—DESCENSUS

As has been said, the descent of the head down the birth canal tears or stretches the levators and this normal mechanism is interfered with. The contraction of the levators fails to occur and there is no compensation for the displacement which is normally the result of vertical pressure alone. Retroversion of the uterus occurs and the uterus is not restored to normal as described above, but is pushed into the sacral expulsive plane and prolapse may eventually occur.

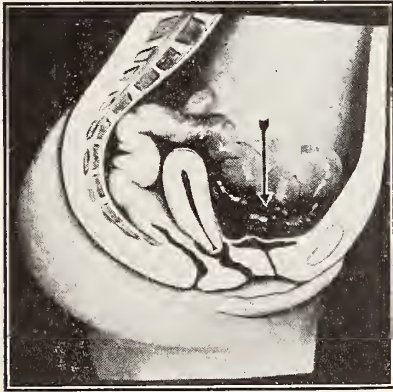


Figure 8

Diagrammatic scheme of misdirected pressure deflection by deranged intrapelvic planes, due to incompetent levator contraction resulting from perineal injury. This is the first stage in the development of cystocele and prolapse. Note the line of pressure on the bladder instead of the fundus. (From Sturmdorf).

It will be seen from this diagram how the uterus is directed down the pelvic canal and how pressure is directed upon the bladder, producing a cystocele. Retroversion is, therefore, the first stage of prolapse. The varying degrees of prolapse seen are simply advanced stages of this mechanism, where there is more relaxation of the pelvic floor, or where this has been of longer duration.

VII—TREATMENT

Treatment for pelvic malpositions is entirely surgical, and operation must be done on the basis of the physiological and anatomical principles I have outlined. Since normal uterine position depends on intra-abdominal pressure, which is modified by proper position of the levator ani muscles, any operation for the re-establishment of this position must of necessity restore the levators to their normal condition.

If fixed malpositions are present, laparotomy must be done to separate the adhesions and free the uterus. Suspensions are, as a rule, of no use at all except occasionally a shortening of the round ligaments to limit posterior motion of the uterus. All

successful work of this nature must include a plastic operation on the levators. We use Sturmdorf's levator myorrhaphy which brings together the entire mid portions of the levators without constricting them. Many perineorrhaphies unite merely the transverse perinei or a few levator fibres.

Cystocele, rectocele and prolapse must be treated similarly. After any plastic operation for cystocele perineorrhaphy is essential. Perineorrhaphy alone will cure rectocele. For prolapse we employ Watkin's interposition operation which changes the relationship of the uterus and bladder with very little change in the deflecting mechanism. Perineorrhaphy is always done after this operation.

VIII—CONCLUSIONS

I have attempted to show in this paper the dynamics of malposition. It is seen that normal uterine position depends upon a normal intra-abdominal pressure, which is maintained by normal levator ani muscles. All attempts at restoration of normal uterine position must bear in mind these points and should attempt to restore the levators.

This work is not offered as original. Its principal arguments were propounded originally by Dr. Arnold Sturmdorf of New York, whom I thank very much for stimulating this concise and brilliant line of reasoning as an explanation for these frequent and annoying conditions.

DISCUSSION

Dr. Reuben Peterson (Ann Arbor): I consider this a very fine exposition of this subject. The trouble with the ordinary practitioner, is that if you speak of dynamics it gives him the same helpless feeling one has when one speaks of kilowatts. If I think my electric light bill is too high I make a kick. If the person I am talking to mentions kilowatts I say "A check will follow immediately."

That is why I say this paper is such an excellent one. It gave in simple language something we should recognize in our treatment of pelvic displacements.

Some six or eight years ago I realized that many of our patients operated upon for retrodisplacement were not improved. I consulted not a gynecologist but an orthopedist. He was an old classmate of mine, Goldwaite of Boston. I sent one of my assistants to Goldwaite's clinic. He spent three weeks there studying the dynamics of the pelvis and other organs so that we might distinguish what patients with retdisplacement should be operated upon. We recognize for the first time practically—although it had been brought out by Dickinson many years before—the kangaroo type and the gorilla type

of posture, and we sent these patients to the orthopedist.

With all due respect to my orthopedic confreres—and I think a lot of them—we have not gotten as good results as we wanted to. I have come to the conclusion that we shall have to do this work in our gynecologic clinic. They do not recognize what we want to bring about.

A woman, for instance, with a gorilla type of posture, whether she has had children or whether she is nullipara, does not only need a support and belt, but a course of training of those muscles and a change of the whole skeleton to give her relief from backache due to this condition. It is not due to the retroverted uterus.

We recognized quite a good many years ago that we were not getting the right results from our prolapse and perineal operations. I think a great deal of credit should be given to Sturmdorf and others who showed us exactly what to do under these conditions.

When the woman has sustained a laceration in childbirth the levator ani muscles are ruptured and drawn to one side or both sides of the pelvis. They and the pelvic fascia must be brought together in the median line if you are going to get the right results.

That is why for many years I have been very favorably disposed towards the interposition operation for the very reason that you saw in the lantern slides that when the fundus is tipped forward inter-abdominal pressure acts in such a way that the lesion does not recur. You older men will remember what happened when the uterus was attached to the abdominal wall without the repair of the pelvic structures. Sometimes a man will say, "I hitched up the uterus to the abdominal wall but the cervix came out again."

Of course it would come out again because nothing can stand that strain of the inter-abdominal pressure and it will be forced out unless the fundus point forward. I have seen the cervix six inches long protruding from the vagina after fixation of the uterus. If the uterus had been tipped forward and the perineal muscles had been built up all would have been well.

The principal value of a paper like this is to draw again and again the attention of the profession to the fact that retrodisplacement, in itself means nothing, but that you should seek along gynecologic and orthopedic lines to restore many of these women to health.

Dr. Robert T. Morris (New York): I will try to make six points. I agree with Dr. Rothman that classification of malposition into those that are fixed and those that are movable is fundamental to the proper analysis of the situation.

Next, in discussing the question of the gorilla and kangaroo types of skeletal defects, we must take into account also that described as a short sternum. A short sternum is several centimeters shorter than the normal one and it is important because of its significance as a matter of physical decline.

When you have this short sternum you have an increase of parallelogram forces set into the pelvis because of relaxation of perineal supports. The colon pulls upon the gastrocolic ligament and drags the right side out of the Gerota's capsule. The left kidney may be pulled out by a traction upon the splenophrenic ligament. In other words, you are dealing with a physical condition, fundamental in its nature, relating to physical decline, and that is your picture. You are not dealing with a picture of the uterus. That is way past the middle ground, in the background, not even in the foreground. In addition to that we have to consider such matters as scoliosis, such matters as peripheral irritations, like eyestrain in school children, nasal hypertrophy, and other peripheral irritations which lead to relaxation of normal supports.

The treatment for pelvic malpositions, as I understood Dr. Rothman, is almost wholly surgical. I presume by that he means fixed malpositions. With that I will agree. I believe the other malpositions are almost wholly medical. They relate to the general condition of the individual.

In regard to perineal repair it is true that many of the earlier operations merely united the transversus perinei muscle. I have taught my classes for years that they must carry their scissors deep enough so that when they are spread we expose the pubococcygeal part of the levators and then repair the fascia in such a way that the transverse perineal muscles are brought together.

REPLY TO DISCUSSION

Dr. Emil D. Rothman (Detroit): One of our very prominent gynecologists in Detroit told me a short time ago that the merits of a paper do not depend so much upon the paper itself as upon the men who discuss the paper. From that point of view, I feel confident that this little attempt of mine has certainly been successful.

HAY FEVER SEASON OPENS, TIME FOR TREATMENTS

Little grains of pollen blown on an April breeze may be the innocent cause of many sneezes from early hay fever sufferers. The season for this trying malady is now at hand and, in the opinion of medical specialists, hay fever victims should arrange to be desensitized without delay.

While pollen from summer and fall grasses and weeds causes most of the hay fever, there is an early variety due to certain trees and shrubs that blossom early. In warm climates this may be mistaken for a common cold of late winter. Rose fever is one name given to this early variety of the malady, though it is caused by many plants besides roses.

As a matter of fact, it is a protein substance in the pollen of plants that causes hay fever. Some persons get it from protein in foods, animal

hair or feathers, glue, horn rimmed glasses, and many other queer and unexpected sources. Physicians have devised a way of testing which pollen or protein is the cause of hay fever in any given person. Treatment to make the person less sensitive to the guilty substance may then be instituted. An amount of the particular protein so small that it will not cause a reaction is injected under the skin of the patient. This is done about once a week, gradually increasing the amount of protein injected, until the test shows that the patient no longer has any reaction to it.

Treatment is generally started about fifteen or sixteen weeks before the time the hay fever customarily begins. It will not help all the sufferers, but 25 per cent can be completely relieved by desensitization and a varying number can be definitely benefited.—Science Service.

FORCEPS AND VERSION IN THE MANAGEMENT OF DYSTOCIA*

HARRY A. PEARSE, A. B., M. D., C. M.**

DETROIT, MICHIGAN

In this paper, by the operation version is meant, internal podalic version followed by extraction of the foetus. The term "forceps" refers to the obstetrical instrument designed to extract the foetus by the head from the maternal passages, as Chamberlin, its inventor said, "without prejudice to the mother or the child."

There has been considerable comment in the literature of the last decade regarding the radical trend of obstetrics. The operations of forceps and podalic version have had their ardent supporters and severe critics. It has not been firmly enough impressed on medical students and the younger generation of practitioners that these are technical surgical procedures which require much more skill than the average laparotomy. Moreover, mistakes in their performance jeopardizes the lives of two individuals instead of one. Forceps have suffered more in this respect than version, for it is not uncommon to see an individual who shuns a version attempt all sorts of bizarre procedures with forceps. On the other hand, there is also danger in going to the opposite extreme of conservatism. As Barnes said, quoted by DeLee, we should wait to see what the woman can accomplish, not what she can endure. Undoubtedly many labors are prolonged by several hours while indications exist for their termination. These same labors eventuate spontaneously without mortality to mother or child, but rarely without morbidity. Too much emphasis in the past has been placed on mortality and not enough said about morbidity. How often do we hear the statement,—I was very healthy until my baby was born. The nervous system may be permanently damaged. The severe acidosis with the attendant surgical shock and anemia occasioned by long labor is not to be too lightly considered.

A thesis on maternal and foetal mortality and morbidity by Dr. Irving Colef, a junior in the Detroit Medical College, reveals the status of the physician in the opinions of DeLee, Lynch, Polak, Ehrenfest, Dickinson, Hirst, Frank and others, to whom a questionnaire was sent. They were asked to list several pathological and non-pathological factors in their order of importance by numbers. Among the non-pathological factors were, the physician, the lack of pre- and post-natal care,

parity, age and health of the parents. I have several of these communications and some of the authorities, notably Polak, not only numbered the factors but placed especial emphasis on the physician.

The country doctor is not so apt to err in this regard as his city confrere who has his patient hospitalized. The hospital atmosphere with many assistants and adequate supplies gives the latter a false sense of security and he is seized with a desire to interfere when the conditions do not warrant it. The presence of resulting complications only serves to augment his frenzy and injury to mother and child results. In other instances, he calls a consultant to carry out an operative procedure, for which the patient and relatives have been prepared, when expectancy is the treatment.

As indicated before, the operative intervention attempted in the past has usually been with forceps. During the last few years version has been popularized and much glamor added to its performance mainly through the efforts of Dr. Irving Potter of Buffalo. His contribution has been mainly in calling to attention the advantages of version, an operation which was rapidly falling into disuse. The principles stressed are in the main not new, for this operation was successfully performed by Celsus, about the time of Christ, and later by Soranus and others. The majority of Potter's versions are done on patients who would have a spontaneous birth if unmolested and hence should offer little difficulty to one so skilled in its technic. His teaching, however, is unscientific, dangerous and cannot be too widely condemned.

Both forceps and version have their indications and limitations. Our judgment in their choice will produce the best results when all factors in the case are carefully weighed in the light of former experience and one procedure is adopted to the exclusion of the other. Most versions

* This paper was presented to the Section on Gynecology and Obstetrics at the Annual Meeting of the Michigan State Medical Society held in Detroit, Thursday, Sept. 27, 1928.

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come to grief because of the mistaken idea that it is a complementary operation in forceps failure.

Broadly speaking, these two procedures are employed to relieve dystocia in mild disproportion, the true conjugate never less than 8 cm. in a flat pelvis and 9 cm. in a generally contracted. However, Boenninghausen, in a large series of cases, reports a mortality of 2.2% in generally contracted and 2.7% in flat rachitic pelves that terminated by spontaneous delivery; in contrast to 41% and 47%, respectively, where interference was instituted. In addition, these operations are our means of hastening and assisting delivery in the interests of the mother and child, and in cases of malposition.

Like other surgical procedures the patient must be properly prepared, more so in this instance because the woman is usually exhausted from long labor and has developed a moderately severe acidosis as proved by Williamson. The operating room, likewise, should be prepared for every emergency that might arise. Too often, in obstetric departments, long delays are occasioned by lack of adequate and systematic preparations with resulting detriment to mother and baby. In this regard, the posture of the patient is important, an exaggerated lithotomy for outlet work and the Walcher position for versions.

The exposure for operation with regard to the vagina is best obtained by episiotomy. The ironing out of the vagina with green soap, in the next generation, will be considered bad obstetric practice and should be now. It is no more permissible than to iron a three-inch midline incision to make room for a hysterectomy; in fact, there is less danger in the latter instance. In 1925 I took 20 routine primipara with anterior positions and alternately did an early episiotomy or ironed out the perineum. The ironing process will prevent visible laceration but a pelvic examination at three months postpartum revealed relaxation of the outlet of varying degree in the ironed cases while the episiotomy cases looked like nullipara. My associate, Dr. Henderson, predicted this result before I began the investigation.

The other factor which causes unhappy version and forceps results is the partially or undilated cervix. The term "dilatable" as applied to the cervix conveys a wrong impression. I do not believe a cervix has ever been completely dilated by manual methods, not even by Harris himself. It

frequently is lacerated, however, even in spontaneous deliveries. Much damage is occasioned the mother with an undilated cervix in forceps operations. In version it is the commonest factor causing extension of the arms and difficulty with the after coming head.

The indications for forceps are usually a secondary uterine inertia, occipito-posterior positions and contractions of the outlet. The indications for a low forceps operation need not be as rigid as those for a midforceps. Much confusion exists as to what constitutes low and midforceps. Recently, I interrogated internes from different universities on this subject. I found one, a man from the University of Michigan, who shared my views in this regard. A low forceps operation is one where a pelvic and cephalic application are made at the same time; in other words, internal rotation is complete or nearly so, the sagittal suture lying in the antero-posterior diameter. The station of the head is a bad indicator because this act of rotation does not always occur at the same station. A midforceps is where internal rotation is incomplete. A more scientific designation would be, to say a low or midforceps operation was performed at 2 or 3 cms above or below the spines. The high or inlet forceps operation is rapidly becoming a matter of history and deservedly so. Bailey, in a recent article, states, "that after long labor a version was done with satisfactory results," and says further, "a high forceps would be a better procedure and in the event of failure one could resort to craniotomy." In my opinion, that is a mistaken view, because if a primary version is attempted in such cases, in our experience, it is usually conducive of a good result. The after coming head accommodates itself better than the oncoming head. One cannot be an extremist altogether, however, for in skilled hands there may be occasional indication for high forcep operation.

The mechanism of labor as written in our texts may not be absolutely correct. McNally, in the September Journal of Obstetrics and Gynecology, observes that every head in the cavity of the pelvis lies with the sagittal suture transversely, whether originally anterior or posterior. The anteriors rotate backward, and the posteriors forward, because this is the plane of equal dimensions; they resume their former positions when striking the pelvic floor. Hence, descent and not rotation, is the prime factor concerned, which

will explain the efficacy of the Kielland forceps in transverse arrest. A cephalic application is made surprisingly easy with this instrument.

The instruments in popular use at present are the Simpson forceps modified, Tarnier's axis traction, introduced in 1877, and Kielland's forceps, introduced in 1915. These instruments all have long handles. Tarnier, by use of axis traction rods with a horizontal bar, made it possible to pull with one hand and place counter pressure against the patient with the other. If this bar is held 1 cm. from the forcep handles and traction exerted, the head follows the pelvic axis. This forceps is strongly advocated by Williams and others; personally, I never use it. It is too heavy, and there are too many rods and appliances to adjust, making it an awkward and clumsy instrument. Furthermore, it has a vicious cephalic curve. In forceps, as in version, it is the operator that is the important factor, armed with the correct diagnosis and knowledge of the mechanism of labor. The Simpson forcep, as modified by DeLee, should serve any obstetrician well. In 1915 Kielland of Norway, gave us an instrument with a sliding lock and practically no pelvic curve. Its principles are not new, but it has a place in our armamentarium. This invention upsets many cherished ideas; a high application is always made in the transverse diameter of the pelvis. It is used as a rotator and the anterior blade is inserted upside down under the public arch and then rotated into place. The sliding lock makes a correct cephalic application easy. I have only used the instrument a few times, as I prefer manual rotation in cases of transverse arrest. A detailed account of this forceps by Jarcho will be found in the *American Journal of Obstetrics*, Vol. X, page 1.

For unrotated occipit posterior cases, many men still employ the Scanzoni operation. Other men feel they are more proficient with the Bill maneuver. Tarnier first described this method of rotation, allowing the handles to pass through a wide arc, which necessitates the tips of the blades performing a circumscribed rotating movement. Bill of Cleveland, has modified this procedure by dislodging the foetal head, pushing it up out of the pelvis and then rotating. These methods, as Bill's, and manual rotation, followed by midforceps, are equal in value. It is largely the procedure the particular obstetrician is

most proficient with that should determine his choice.

The application of the blades varies in different countries. In Edinboro, the blades are both passed over the palm of the left hand, to fit the concavity of the sacrum and then rotated into place. In this country, the left blade is applied to the foetal head, the right to the pelvis, and then rotated to lock with the left. In cases of transverse arrest and anterior and posterior parietal presentations, if the blades are applied over the parietal bone and the opposite malar eminence, the asynclitism corrected which is usually present, it will be found that locking of the blades does not occur well. If light traction is then applied the operator will usually be rewarded by the head rotating inside the blades. When this has taken place, they can be locked properly and delivery effected. At the termination of delivery, when the anterior fontanelle comes into view, it is wise to remove the blades, as delivery by Ritgen's method affords as much protection as leaving the blades on.

With regard to podalic version, a few points in technic deserve stressing. Long rubber gloves, well lubricated, should be used. The membranes are better ruptured some distance from the os, as described by Peu, 1694. Care should be taken to have the arms folded on the child's chest. The external hand should press the foetal head to cause flexion and thus preserve the foetal ovoid, which will facilitate turning. The presence of meconium does not mean foetal distress, but is usually caused by pressure on the abdomen of the child.

This operation is one that should be done deliberately, without hurrying. The time limit of eight minutes stipulated by Williams, and the calling off of the minutes by the clock, as advocated by DeLee, is a mistake. The foetal injury will vary directly with the haste exhibited.

The shoulders should be delivered anteriorly by rotation, unless they come quite easily posteriorly. The child is rotated slowly, first trying one shoulder, and then the other. The rotation is carried to the left or right as the case may be, until the foetal sternum is practically directed towards the ceiling of the room, until one or the other shoulder slips out from under the symphysis. Extension of the arms may be determined by palpation, or will be found to exist when the angle of the scapula is drawn away some distance from the foetal spine. If the after coming head offers difficulty, forceps are much superior to at-

tempting a difficult Mauriceau-Smellie-Veit maneuver.

In conclusion, one should carefully study the case in labor where dystocia exists and choose that procedure which has given the best results in his hands, after the indication and conditions have been satisfied. Let the patient in labor be fortified by a conservative operator who will intervene before she is exhausted and becomes a poor surgical risk.

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DISCUSSION

Dr. Harold Henderson (Detroit): Dr. Pearce has indicated that there are several factors which must be considered in dealing with any case of dystocia. One of the most important is the physician himself. There are just as many types of training and different degrees of ability in handling an obstetrical case as there are physicians. We must consider the surroundings under which he is operating. It is impossible to perform major surgical procedures in the home where you haven't all the facilities, especially in some of the places where there is no electric light and where hot water is rather difficult to obtain. The number and the training of our assistants has a lot to do with what we should do in these cases. I do not believe we should condemn version or forceps because it teaches men, whether or not properly qualified, to take up these operations.

If we were to discuss the treatment of carcinoma of the stomach and advocate certain radical operations of the stomach in such a condition, it is no reason at all why we should stop doing that because there are certain men who would take up this operation who were not properly qualified. If we speak about version and go through an elaborate discussion of the technic or discuss more difficult forceps operations, it doesn't mean that everybody should do that. It means that we should choose our operation depending on the surroundings and the type of man who is doing the operation.

If we have a well-equipped hospital with a specialist who has been thoroughly trained in all types of delivery, I think he should be allowed to use his own discretion. If we are discussing this subject with medical students we certainly should follow the ideas of DeLee and Williams in their indications for version and for the use of forceps.

I have found that if we follow textbook indications we will very rarely get into trouble. But, if we take up the latest medical journal and read about splitting of cervix and doing high forceps

or version and if that sort of procedure is taken up by men who are doing an occasional obstetrical case, there is no doubt whatever but what there will be a great deal of difficulty.

I want to say about episiotomy, which Dr. Pearce advocated, I found that it was very valuable where we can get proper exposure and where we have plenty of help to make an accurate approximation and where we have extra good postpartum care.

I have done episiotomy in hospitals where the postpartum care was not good, with the same technic that I have used where we have good postpartum care, and the results are different. If we are going to do primiparas where we are not sure of our technic, the old through and through silk worm is probably the best and you take your chances at getting a tear. If we are doing episiotomy we must be sure that there are strict aseptic precautions used throughout and our postpartum cares must be perfect.

Let us remember what has been said in this paper, that we should not try to push a woman too far. A good many of them are left in labor too long. There is no question about that at all. It results in a greatly increased maternal morbidity and certainly a greatly increased fetal mortality. To have the head on the perineum with the cervix dilated after a rupture of the membrane for three or four hours, that is cruelty and should not be allowed to go on even in the poorest of surroundings. A low, or midforceps, can be done with every degree of security. Let us remember that our version, or Bill's maneuver, and, or forceps should be carefully inquired into and the most suitable type used for each indication.

Dr. George Kamperman (Detroit): I didn't hear all of Dr. Pearce's paper, but I think Dr. Henderson has probably hit the nail on the head when he practically said that we must individualize. We cannot be dogmatic and say, with Potter, that we must do version in every case, or with some others, that we must do a forcep. Every case is a law unto itself as well as every operator is a law unto himself.

Personally, I feel that obstetricians in general, and by that I include general practitioners because they are the biggest obstetricians we have, probably the majority of women will always be handled by the general practitioner, and his work is usually good. We must classify him among the operators when we talk on this subject.

I believe obstetricians and general practitioners will always use forceps more than they will versions, simply because there are more of those cases. Of all the cases we use forceps on, the most common case is where the head is on the perineum and we have an inertia and the patient is relieved by low forceps. No one would ever think of doing a version except Potter. Most practitioners will find they get a great deal of experience with forceps and a version will always be more or less the unusual case. That is simply because of the large run of cases.

A great many cases may need forceps, can easily be delivered by forceps, but the case that requires version is not as frequent. My feeling is that version competes with forceps only when the head is high. I do not believe, as a rule, that we should do versions on patients where the head is definitely below the spine or on the pelvic floor. If the head is high up, then version comes in competition with forceps and in those cases it can be considered. But because of the greater experience that the practitioner gains from for-

ceps, because of the low forceps, he probably will be in cases better able to do a midforcep than a version.

That is simply in line with what Dr. Henderson says, that every operator is a law unto himself. A man must adopt the operation that he is best suited for. From the records of most hospitals I am quite sure that that applies to specialists as well as others, that they have more experience with forceps and for that reason are more likely to try forceps. I imagine they will probably get better results with forceps than with versions. The only cases where we feel that version and forceps compete are those where the head is high.

As was mentioned, I think one mistake often made with version is that version is adopted as a secondary operation. The patient is in labor for awhile and the obstetrician attempts forceps and is unable to do it, and then he tries version. That is disastrous. Every one does that once in awhile. We find that there is hardly an obstetrician who hasn't a case like that on his record. He misjudges the case and thinks he can deliver with forceps and fails, and then tries version. The careful study of such a case and the adoption of version as a primary operation, would obviate a great many troubles.

One other point I want to make is on the question of fetal injury. We naturally associate fetal injury with difficult forcep deliveries. Let us not forget that fetal injuries occur with version. On our records at Harper hospital we have many a case where versions were performed, apparently quite successfully and quite easily, but the baby died. An autopsy would show a cerebral hemorrhage. It is surprising how often that occurs. I feel that we must remember that, because there are definite fetal injuries that will occur with version.

About women being in labor too long. I want to take a little exception to Dr. Henderson. That may be true that some patients are allowed to go too long; but my feeling is that some of them are hurried too much, although it is a mistake to let a woman go in labor too long with the head on the perineum, yet, at the same time, too early delivery, I think, is in most cases conducive of more harm than one where a little more time is allowed.

Dr. H. B. Zemmer (Lapeer): I was very much interested in the reference to morbidity statistics that Dr. Pearce mentioned. Recently those of us at Lapeer have had considerable opportunity to go over the histories of the inmates of the feeble-minded home there, this being required because we are sterilizing a number of those patients and the histories are before us.

It is strikingly common to find that in the history of that particular individual there was a forceps delivery. I am just throwing this out as a suggestion that I think a great deal of work can be done in checking up the morbidity statistics in later years on forceps delivery. This, of course, isn't always manifest in the first year and sometimes not until the child is two years and three years old. Then something happens, the child isn't walking or talking, or it isn't developing as it should, then we find that they are subjects for the feeble-minded home. They never do develop properly. I think an investigation along that line over a period of years should prove very interesting.

Dr. Harry Pearse (Detroit): Dr. Henderson's remarks about episiotomy, of course, are correct. If you are doing episiotomy you certainly must be in position to make a correct anatomical approximation. That not only holds for episiotomy, but for a laceration. Numerous times, as an interne, I have seen patients have a deep second degree laceration and the attending physician took care of that by two or three gut sutures which he used in most cases. But, in all cases you should have an anatomical approximation made, just as you would in episiotomy or any other incision.

About the different maneuvers—Dr. Tew apparently favors manual rotation. I like that very much myself. There is one difficulty where manual rotation is concerned, and that especially holds in the right occipitoposterior when the head is rotated, sometimes it won't stay rotated and returns to its former position while you are attempting to apply your forceps. Of course, in the left occipitoposterior that is not so apt to occur.

Dr. Kamperman made the statement that more forceps operations were performed. The reason for that is that the average patient left in labor and treated expectantly will deliver to the extent that the head is engaged, which means, it is on the level with the spines with two-thirds of the sacrum covered and three-quarters of the symphysis, which in a version doesn't exist because those heads are practically always high.

With regard to mortality with version and forceps, there is an article in the American Journal of Gynecology and Obstetrics, which was read before the Gynecological and Obstetrical Society, in which Dr. Kamperman reported the statistics for Harper hospital for 1925 and 1926, in which they had 78 deaths of full-term children, that is, born at term. Of those deaths, 30 were attributed to delivery; and of the 30 delivery deaths, 8 are listed for forceps, 4 were listed for forceps and version. Those were undoubtedly cases where version was attempted as a complementary operation, and 4 were versions themselves.

ETHER DENOUNCED AS DANGEROUS

Ether has been denounced by the dean of the University of Michigan medical school as "the most dangerous anesthetic in modern surgery." Dr. Hugh Cabot let it be known that in his opinion "if it were possible to trace casualties to the use of ether in the operating room, it would have been found to have killed more people than any of the other three anesthetic used: chloroform, nitrous oxide or ethylene." Dr. Cabot continued his challenge of the use of ether by stating that in the past, less than 10 per cent of the deaths which could be traced to the administration of that anesthetic were ever published. The mor-

talities in ether deaths, except in a very few cases, does not come immediately after its administration, he said, as is seen in the cases of patients exhibiting a fatal contraindication for chloroform. In a few days, however, complications seem to develop, and death is said to be due to "cardiac failure, bronchial pneumonia, or some other pulmonary complication that satisfies the surgeon," he went on. Dr. Cabot declared that the explosions which have attended the use of ethylene gas have been due to "careless methods manifested in its administration."—Science Service.

THE ROLE OF BLOOD TRANSFUSION IN THE TREATMENT OF INFANTS AND CHILDREN*

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During the year 1925, 145 transfusions as well as 58 intra-peritoneal injections of blood were given, at the Children's Hospital of Michigan, Detroit. In 1926 these had increased to 264 transfusions with 31 intra-peritoneal injections, while during the year 1927 there were 341 transfusions, three exsanguination transfusions and only two intra-peritoneals, both of them being on the same patient. Prior to July 1926, nearly all the transfusions were performed by the citrate method but since that date 92% have been unmodified blood.

This experience seems to be in keeping with that of other pediatric hospitals where, within a comparatively few years, more and more dependence has been placed upon the giving of whole or citrated blood in the therapy of the diseases of children, particularly in young infants.

The technic employed in the transfusions in which whole blood is given, is the Lindemann syringe method, the blood being withdrawn from the donor into paraffined syringes and transferred rapidly to the recipient, preferably by the way of the saphenous vein at the ankle. The vein at this point is selected because of its constancy in position, the ease by which it is dissected out, and its freedom from back-flow because of the valves above. In the absence of evidence respiratory or cardiac embarrassment the amount usually given is about 15 cc. per pound of body weight, although often more has been safely given to very dehydrated, marasmic infants, even as much as 20 c.c. per pound.

By using whole blood, given in this manner, marked reactions have occurred very rarely, although mild elevations of temperature are noted fairly frequently, which is in sharp contrast to the number reported in adults where they apparently occur in about 25% of transfusions³. In this group the only grave reaction was later found to have been due to error in typing of the recipient; fortunately, however, the outcome was not fatal and did not have any apparent deleterious effect on the patient's course. Some patients were made worse but in these it was not due to reaction but to error in clinical judgment where the patient had definite contra-indication to giving fluid intravenously.

Temperature reactions (presumably proteolytic reactions, occurring in 1 to 12 hours) have apparently been more frequent and more severe in those receiving large amounts of citrated blood, as well as

those suffering from severe anaemias or leukemias. Most of the patients and donors were typed by using the standard type II and type III sera, a small number being cross-agglutinated as an added precaution. So-called universal donors are not used except when donors of the same type cannot be obtained and then only after careful cross-agglutination. The donors are usually friends or relatives on whom no Wassermann reactions have been done but as far as we are aware no communicable disease has been transmitted from donor to recipient as has been occasionally reported in the literature⁴. It has been our practice to use citrated blood only where direct transfusion is contra-indicated by such conditions as septicemia, congenital syphilis or acute infectious disease in the recipient, as well as those cases in older children where their grave condition necessitated bringing the blood from the operating room to the bed side.

Unger¹ some time ago published as his opinion that the addition of sodium citrate to blood was undesirable because it tended to diminish the fragility of the red cells, lowered the opsonic index, diminished the phagocytic power of the leucocytes and developed anticomplementary substances in the blood. His contention was, however, later refuted by Mellon, Hastings and Casey² and we feel that, with the exception of anemias, hemorrhagic diatheses, and other blood disturbances, citrated blood can be used almost as satisfactorily where facilities are not available for giving whole blood.

In going over the case histories of a large number of infants and children who have had transfusions, one is confronted by a group of patients in which the mortality rate is very high, because it is naturally the most desperate and most critical who are transfused in an effort to save life. This makes an unbiased evaluation

* Read before section on Pediatrics 108th Annual Meeting of the Michigan State Medical Society, Detroit, September 27, 1928.

of its value more difficult, especially from perusal of hospital records. The problem is made even more complicated by the fact that where more than one transfusion was given during the patient's stay in hospital the indications for each, often are quite different. This point will be considered at greater length in speaking of hospital infections.

Chart 1 indicates graphically the conditions in the treatment of which transfusions were done in our series of 300 cases during 1926-1927. The few that

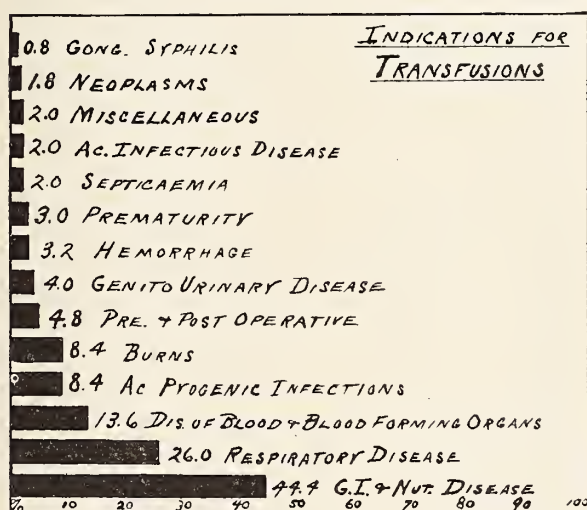


Chart I

were done in congenital syphilis as an adjunct to antiluetic treatment were given for the anemia and malnutrition which so often develops, partly as a result of the difficulty in feeding. They deserve little comment except to say that citrated blood was given when the donor was anyone but the mother, or a known syphilitic father, in order to safeguard the donor against possible accidental transmission of the disease. In the group headed neoplasms of which there were four, all of them malignant, the blood was given, in two for the cachexia ensuing from malignant new growth and in the other two it was given in an effort to prevent exotos from repeated hemorrhages resulting from intensive X-ray therapy, the results being of course very transitory. The white cell counts of the two mentioned after X-ray fell to 650 and 300 respectively, with no platelets visible in the blood smears.

The miscellaneous group included cases of asthma, eczema, chr. nephritis, congenital abnormality of the heart (associated with severe marasmus), intestinal gangrene, congenital abnormality of the intestine and acute encephalitis, none of

them in sufficient number to justify any conclusions. The possibility of benefit in asthma has been pointed out by McBroom⁵ put up to date we have not had the opportunity of putting it to the test.

Five children with septicemia were transfused with two recoveries and three deaths. Whenever this diagnosis is made or suspected, the citrate method is always used, as it is felt that the safety of the donor is more to be considered than any possible advantage that unmodified blood may have⁶, especially when we are dealing with a condition in which the value of the procedure is in so much doubt. The children that died were found to be suffering from pneumococcus, staphylococcus and streptococcus septicemia respectively, the recoveries being in one with a streptococcus hemolyticus infection, blood being given on four occasions, and the donor was given antistreptococcic serum before one of them. The other recovery was in a patient in which the diagnosis was not fully substantiated, it was presumed to be pneumococcus. Nine children suffering from acute infectious disease were given citrated blood (for the reason mentioned previously) the blood being transported to the patient's room. Two had typhoid and another paratyphoid A in which the procedure was undertaken because of their poor general condition as shown by extreme prostration and associated hyperpyrexia. Other infectious cases transfused were Vincent's angina, scarlet fever, and measles. In erysipelas, while blood seems to have a very important place in treatment, especially in the younger infants⁷, yet we feel that its value is much enhanced by concomitant treatment with erysipelas antitoxin. Also in this connection, as well as in septicemia, we have tried a limited number of transfusions following the administration of antitoxin to the donors apparently with the beneficial results that have been found by others^{9, 10, 11}.

Prematurity is one of the conditions in which blood, given in small amounts at the proper time, is frequently a life-saving measure. We have repeatedly found than an alarming decline in weight, which could not be checked by change of feeding or the administration of subcutaneous saline and glucose, was quickly stopped by timely giving of blood. Many of them, too, show moderate degrees of secondary anemia, particularly if parenteral infection be present, both of which are helped by new blood.

Three and two-tenths per cent of our

cases were given blood to arrest hemorrhage, the time-honoured indication for transfusion. Under this heading we have placed hemorrhage resulting from operation wounds, haemophilia, severe epistaxis, visceral hemorrhage and hemorrhagic disease of the new-born. Probably nowhere else are the results of blood transfusion so dramatic as in hemorrhagic disease where infants are restored to normal health after being almost moribund. In none of them was more than one transfusion necessary, using either whole or citrated blood. In the conditions mentioned the permanency of the result depended entirely upon the underlying condition.

Under the heading of pre- and post-operative, 15 were done. The pre-operative ones were those in which an effort was made to lessen the operative risk by improving the patient's general condition or to attempt to increase their resistance. Post-operative transfusion has not been practiced here as frequently as it has elsewhere, probably not as frequently as it should be. When it has been done, as in the case illustrated by Chart II, great benefit apparently results in preventing post-operative shock, hyperpyrexia, and shortening the patient's stay in the hospital. The greatest benefit was noted following operations of long duration, intussusception, and intestinal obstruction.

Case No. 41907. Age 1 mo., male. Admitted October 18, 1926. Vomiting became progressively worse for 10 days prior to admission, projectile in type, and accompanied by rapid loss of weight

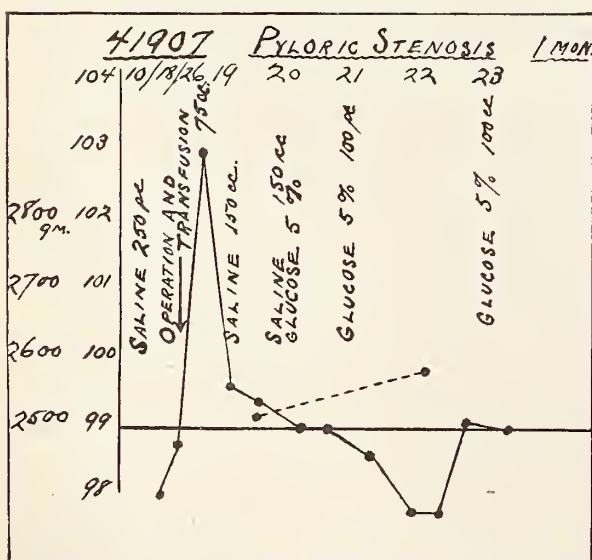


Chart II

and constipation. Child very emaciated, abdomen sunken, skin inelastic. Gastric peristalsis seen, and pyloric tumor felt. Interstitial saline given prior to operation, which was performed 4 hours

after admission, and operation followed immediately by transfusion of 75 c.c. blood. Child was given breast milk starting 4 hrs. p. o. at 4 hour intervals, received daily interstitial of glucose, and was discharged in good condition on the 5th day following operation.

Cases of genito-urinary disease requiring transfusion are largely cases of pyelitis and pyelonephritis, blood being administered both for acute toxemia and the resulting secondary anemia. Two cases of pyelitis were transfused during the acute stage when the temperature was over 105° and the children appeared very pale and toxic. Two others were transfused more than once during the second and third week of illness as they did not show any improvement and were becoming very anemic. In all four there was decided improvement, particularly in the first two. The only ones that were transfused for pyelonephritis both died. One was apparently due to paratyphoid A infection of the kidney as this organism was repeatedly obtained on culture of the urine. The other child had an associated bronchopneumonia, as well as severe rickets, death coming following a series of convulsions.

The cases of osteomyelitis were nearly all transfused in the acute stages when the temperature was high, toxemia intense, and the possibility seemed good for attacking an early septicemia. The immediate results obtained were good but frequently the procedure had to be repeated. The empyemas on the other hand were done late in the disease when the patient was running a septic temperature and losing ground from long continued absorption; these almost all showing considerable temporary improvement. Other cases showing at least temporary benefit were those of septic arthritis, pyoderma, acute sinusitis, cellulitis, abscesses, and acute peritonitis; in the last named, however, little permanent result could be ascribed to the blood.

Transfusion always plays an important role in the therapy of burns in children, as burns or scalds in infants or small children are always serious and are usually accompanied by toxemia of greater or lesser degree, particularly when proper treatment has not been immediately instituted. In the early stage of a burn, blood is given to combat the shock which usually develops, in the later stages in the treatment of toxemia and sepsis. Dr. Davidson, who is in charge of all burn cases, is now finding that early transfusion to a great extent eliminates toxemia but of course has no influence on the course of the patient during the time when there is absorption of

septic material from the healing area. His routine is to give saline immediately the patient is admitted and to start applying tannic acid while typing is being done, then a large transfusion, followed by a second in from 12 to 24 hours if the patient begins to get toxic. During the last 18 months the early mortality in the burn cases has been divided almost by one-third. Transfusion is again resorted to during the stage of sepsis, prior to skin grafting and repeated as often as is indicated usually with great benefit. Exsanguination transfusion⁸ was resorted to on three occasions in which the early treatment had not been adequate or started soon enough with two deaths and one recovery. The one recovery is recorded in detail below and illustrated by Chart III.

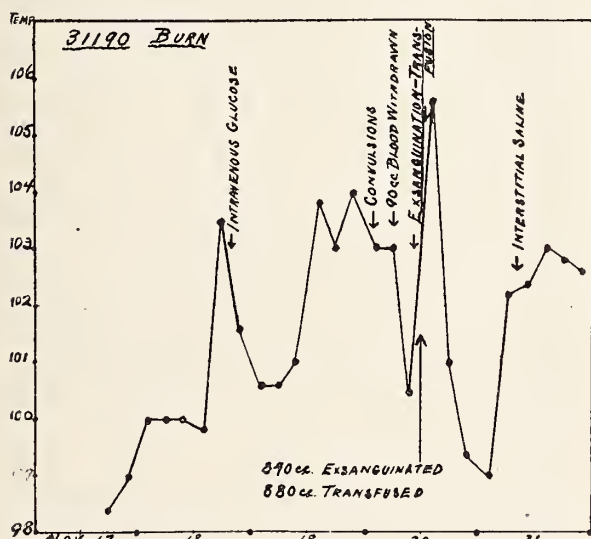


Chart III

Case No. 31190. Admitted November 17, 1926, 6:30 p. m. Age 2 years, male. Boiling water spilt on patient 1½ hours before admission, causing extensive second degree burn covering face, left shoulder, and left arm, left side of chest and abdomen, as well as left thigh. Examination negative except for acute nasopharyngitis and moderate shock. Twenty-four hours later patient was given intravenous glucose solution as the temperature was elevated and patient showed generalized twitching. During this time he was also taking large amounts of fluid by mouth. About 8:30 a. m. November 20, he began to have generalized convulsions, for which 8 per cent magnesium sulphate solution was given followed by subcutaneous glucose solution. An attempt was also made to give intravenous saline and glucose but this was immediately stopped because the patient developed acute pulmonary oedema of such degree that blood tinged, frothy material ran freely from the nose and mouth. This stopped almost as quickly as it began, when 90 c.c. of blood was withdrawn and his condition improved sufficiently to warrant proceeding with an exsanguination transfusion. This was completed about 3 p. m., 840 c.c. of blood being removed and 880 c.c. given, at that time the temperature being

105.6 and the patient was in a semi-comatose condition. During the next 12 hours temperature gradually fell to 99.4. There were no further signs of toxemia but his course was later complicated by septicemia, which in turn was followed by osteomyelitis, multiple abscesses and septic arthritis, one other transfusion being necessary before his discharge from the hospital on April 19, 1927.

Secondary anemia, due to any cause, such as improper diet, iron starvation, rickets, and chronic pyogenic infection, responds rapidly to the giving of adequate amounts of blood and in this, of course, our experience is not at all unique and deserves no further comment.

Three cases of aplastic anemia were transfused with only one recovery. Repeated, small transfusions of whole blood were given with the idea of stimulating the bone marrow, with only fairly satisfactory results as far as permanent cure was concerned. In one case which eventually terminated in death, no less than 14 were given, all of them producing nothing better than temporary improvement. If a focus of infection is found the removal of this, together with repeated transfusion, is of great benefit and in one case gave excellent results where the focus was a chronic osteomyelitis. In one case of sickle-cell anemia removal of the spleen, following transfusion, caused a return of the red count and the hemoglobin to the normal level, but not apparently a complete cure as the child still shows some hemolysis, although she is showing less numerous infections and blood destruction is not so marked. The same may be said concerning congenital hemolytic jaundice. In one case in which splenectomy was done the blood picture was stabilized so that the patient has not required further transfusions, but sufficient time has not yet elapsed to pronounce a permanent cure. During the last five years about 10 cases of severe anemia associated with changes in the skull and long bones, (Von Jaksch's) have been under Dr. Cooley's care in the hospital and here, too, he has found transfusions to give rather temporary benefit even in those who were splenectomized, the reason being that probably the disease is the result of congenital defect in the blood-forming mechanism.

It has been stated that the giving of blood in the acute leukemias sometimes produced actual harm by aggravating the disease. However, in those patients in which we did a number of transfusions no apparent injury was done, although no permanent benefit resulted; their demise usually from hemorrhage being sometimes

temporarily delayed. Hemorrhage in symptomatic purpura is readily controlled by one or more transfusions if the underlying cause is amenable to treatment. One fatality from hemorrhage was a patient diagnosed as Henoch's purpura who died on the 15th day after admission from severe intestinal hemorrhage. The other death was in a case of thrombocytopenic purpura who died of hemorrhage following splenectomy. He had previously had several transfusions for severe hemorrhage with very satisfactory results.

Children suffering from respiratory disease with the complications, otitis media and mastoiditis, furnished the material for 26 per cent of our total number of transfusions. The children classed in this group, together with those classed under nutritional and gastro-intestinal disease, comprise over 70 per cent of the total number of transfusions and are extremely important not only because of their number but also because it is in these that the indications for giving blood are the least clearly defined, the results often disappointing, and the value of the procedure most difficult to judge because of the type of cases with which we are dealing, and also because other therapeutic measures are usually instituted at the same time.

Respiratory disease, otitis media and mastoiditis take on an added importance when we consider how frequently they occur as hospital complications attacking all types of cases, most often in the fall, winter, and spring months, being of greatest importance in marasmic infants, and coming as post-operative complications after even minor surgical procedures done under general anesthesia.

In all, there were 50 patients transfused who were suffering from bronchopneumonia; in 30 of them the pneumonia was present at the time of the child's admission to the hospital, the remaining 20 having it as a complication. These were most often done by the citrate method in order that the blood might be given very slowly so as not to add undue strain to the already embarrassed circulation. The amount given was about 10 c.c. per pound of body weight or less, depending on the child's condition. The indications that prompted giving blood were (1) intense toxemia (2) continued spread of the pneumonic process, (3) associated secondary anemia and (4) failure of resolution. In the 30 cases in which bronchopneumonia was present on admission to the hospital the results on the whole were disappointing, as

in only nine were any signs of improvement noted, three of these being associated with secondary anemia, and two with severe diarrhoea. In the remainder no improvement was noted in general condition or in the rate of spread of pneumonia, whether the blood was given soon after admission or late in the course of the disease. Also, as in the pneumonias which came as complications of other conditions, those in which cyanosis was present, or those in whom there were signs of extensive oedema of the lungs were made definitely worse by giving even small amounts of blood. In the pneumonias which complicated diarrhoeas, malnutrition, burns, following anesthesia, or nasopharyngitis, the transfusions were usually done late in the disease because of the patient's precarious condition, death ensuing shortly afterwards in 13 of the 20 patients. In only four was any improvement noted, all of these being done soon after the onset of the pneumonia. Only two patients with lobar pneumonia were done, one improving considerably in general condition, the other dying of peritonitis (pneumococcal). Reports in the literature are somewhat at variance in regard to the benefit of transfusion in pneumonias. Some authors have reported results very similar to ours¹² while others have been more enthusiastic¹⁴ and gave case reports illustrating excellent results. A few were given blood to prevent the onset of pneumonia when suffering from acute diffuse bronchitis and nasopharyngitis, but the result hoped for was not achieved nor was the downward trend influenced at all. The same may be said about acute nasopharyngeal infection—the complications were not prevented but often, however, the child's downhill course was checked. As far as could be judged from case records, as well as personal experience, we do not think that the occurrence of the complications bronchopneumonia, otitis media or mastoiditis, were forestalled in those patients to whom transfusions were given soon after the patient's admission to the hospital in the treatment of their primary condition, but it would appear that often their effect upon the infants was less, with a consequent reduction in the number of deaths.

The largest single group was the one in which were our cases of otitis media and mastoiditis, there being 55 infants, nearly all under 14 months, who were given a total of 68 transfusions. In this group were placed those cases in which otitis or

mastoiditis was present on admission whenever it was the only condition present, or seemed to be the most important, and was directly responsible for the child being admitted. This group also included those cases admitted for other conditions who developed otitis media, with or without mastoiditis, and whose course was unfavorably influenced by these infections, necessitating giving blood in addition to their other treatment.

In the first type of case where mastoiditis and otitis were present at the time of admission we find that in acutely ill patients with mastoiditis and accompanying otitis media the results are excellent if blood is given early, either before the operation or immediately thereafter. The same holds true in those with acute otitis media accompanied by toxemia, acidosis, parenteral diarrhoea, with or without mastoiditis, where blood is given early, four deaths occurring in 12 cases, one of them due to bronchopneumonia. Where, however, the otitis, acute or chronic, is accompanied by severe malnutrition, often with diarrhoea and vomiting, the results are not at all good, as is shown by that fact that seven out of 10 died and slight improvement was noted in the others.

There were 21 instances of the second type of case, those in which either otitis or mastoiditis was a complication and only seven showed any degree of improvement, either slight or marked, and there were 10 deaths. This apparently unfavorable situation is probably partly due to several causes, (1) the patient is usually one that is in an advanced state of malnutrition, very often having been a difficult feeding problem for some time, (2) giving blood is not resorted to until the patient becomes profoundly toxic or goes into collapse and (3) drainage of the mastoid antrum or mastoid cells is also done late. The ones that receive benefit from blood transfusion are usually those who receive it early before their nutrition is too seriously impaired.

Case Report No. 41869. Age 11 mos. Female. (See Chart IV.) Child had very severe diarrhoea lasting for 2 weeks starting about 1 month before admission to hospital. During the month the baby lost considerable weight and continued to have rather loose stools. On examination child was found to be poorly developed and poorly nourished, with extreme dehydration. Left otitis media present.

Following admission child was given daily saline interstitials, both ears were opened and she gained rapidly for 4 days then began to go downhill rapidly, at the same time running an irregular elevation of temperature. On October

16th patient was given 200 c.c. of whole blood. Condition remained poor for about 24 hours, then gradual improvement began, the temperature fell to normal, and the weight began to go up steadily until discharge 16 days later.

Under the heading of gastro-intestinal and nutritional disease are placed marasmus, fermentative diarrhoea, infectious diarrhoea, parenteral diarrhoea, acute intestinal intoxication and chronic enteritis

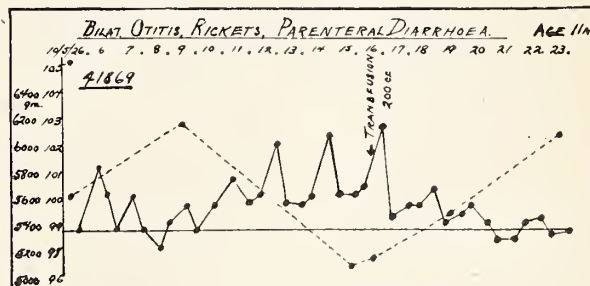


Chart IV

and colitis, between them responsible for almost 45 per cent of all the transfusions and accounting for the peak that is reached each August and September during the season when the most severe diarrhoeas are encountered. Owing to the class of patients admitted to the Children's Hospital nearly all those suffering from gastro-intestinal disease have been poorly or indifferently fed so they nearly all show some degree of malnutrition, very often with severe rickets, especially among the colored patients. Twenty-seven were admitted to the hospital with extreme marasmus, due to various causes, most of them from long continued vomiting and poor feeding, 13 of them being so bad that they were transfused within 48 hours of the time they came in and of these seven showed rapid and marked improvement. The remaining 14 were transfused at a later time because of the onset of pharyngitis, diarrhoea, otitis, mastoiditis, or failure to improve, some of them from 1 to 5 months later, with rather indifferent results as one might expect. Almost without exception, these children, while in the hospital were fed on concentrated milk mixtures, received fluids, by mouth between feedings, as well as subcutaneously once or twice daily.

Infants suffering from acute infectious diarrhoea, having frequent blood-stained stools, usually drowsy, and often almost in a state of collapse, and showing marked dehydration were given glucose and saline subcutaneously while donors were being typed, then were given large transfusions at the earliest possible moment, 11 out of

12 getting blood within 24 hours. The subsequent treatment was carried on with glucose and saline intravenously and subcutaneously combined with proper diets. The results have been extremely gratifying, there being only three deaths out of the 11 mentioned above, some of them, however, requiring more than one transfusion before being entirely out of danger. Parenteral diarrhoea formed a large and important group, there being 32 of the acute diarrhoeas receiving whole blood whose symptoms were apparently the result of parenteral infection, the most common being nasopharyngitis, next otitis media, bronchopneumonia, and mastoiditis. Most of them also presented some degree of anhydremic intoxication from loss of fluids as well as advanced marasmus. In these, as well as in the acute infectious diarrhoeas and acute intoxications, the value of giving the blood early in the course of the disease along with fluids by mouth and saline or glucose by hypodermatoclysis is clearly brought out by the records of our cases. Without blood these children do poorly or at best usually make very slow progress, because no fluid is as effective in replacing depleted plasma as blood plasma and also because living functioning cells are introduced along with it. Eighteen of those suffering from severe parenteral diarrhoea received a transfusion within 48 hours of admission and 13 of them showed improvement varying from moderate to very marked. Three died from bronchopneumonia while the other two failed to respond to all treatment, despite repeated transfusion. The reverse is shown by the fact that of the 14 given blood later in their course only seven improved, one showed no change and six died, two of them from bronchopneumonia. With cases of fermentative diarrhoea the situation is somewhat different because they are as a rule uncomplicated and only those of great severity which have marked degrees of dehydration and intoxication need such drastic treatment as transfusion. Twenty children received blood for this reason and 13 were apparently considerably helped by this procedure. Four of these were almost moribund on admission and did not respond to treatment, three were given blood late for complications without result. In the acute intoxications following severe diarrhoea (cholera infantum) the same routine is followed as described under acute infectious diarrhoea, that is, giving saline and glucose immediately, blood as soon as possible, and following

with further saline and glucose, the result obtained being extremely good, 5 out of 6 patients showing extremely rapid improvement.

Case Report No. 41278, female, age 4 mos. (See Chart V.) Patient admitted to Hospital on September 13, 1926 at 11:30 p. m. with a history of severe vomiting for a week, accompanied by diarrhoea with green watery stools for 4 days. She had been weaned 1 week before the onset of illness and given a mixture of cow's milk, water, limewater and cane sugar. On examination child appeared moderately ill, showed considerable ex-

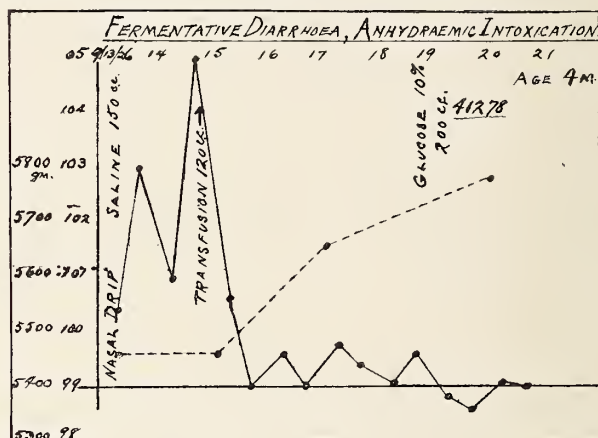


Chart V

coriation of the buttocks and moderate degree of dehydration. She was given continuous nasal drip of 10 per cent glucose for 12 hours, then was started on small protein milk feedings. On September 15th her temperature was 105 and the child appeared pale and drowsy, the pharynx showed slight injection, and a few coarse rales were heard in the chest. 120 c.c. of whole blood was given with 30 c.c. of 100 per cent glucose solution. Improvement was almost immediate. The temperature fell rapidly to normal and the patient gained weight, being discharged cured, 8 days after admission.

Attention has been called to the use of transfusion as an aid in the treatment of chronic entero-colitis in infants by Wood and Aidin¹³ but in the few that we have on record very definite conclusions could not be drawn; however, in these the effect has not been marked, but it would seem to have a place in combating anemia, exhaustion and dehydration.

SUMMARY AND CONCLUSIONS

1. In 300 cases reviewed reactions were very infrequent, the most severe following large amounts of citrated blood and in the grave anemias.
2. Citrated blood is as effective in controlling bleeding in hemorrhagic disease of the new born as unmodified blood.
3. Following major operations giving blood helps to prevent post-operative shock and toxemia.
4. Early transfusion in cases of exten-

six burns prevents toxemia and overcomes shock, thereby greatly lessening the early mortality.

5. Repeated transfusions, alone, effect only temporary improvement in severe aplastic anemia, other forms or primary anemia sicklecell anemia, congenital hemolytic jaundice and thrombocytopenic purpura.

6. Hospital infections and complications are not prevented by early transfusion for the primary condition.

7. Cases of bronchopneumonia show few good results. Many are made definitely worse by even small amounts of blood.

8. Blood given early in the treatment of severe marasmus, anhydremic intoxications, and in the various types of acute

diarrhoeal disease usually causes marked and rapid improvement.

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CERTAIN DIFFICULTIES AND EMERGENCIES OF OBSTETRIC PRACTICE*

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II. With the time at my disposal for this paper, I propose to deal with those difficulties and emergencies which seem to occur most commonly. I feel quite certain that I will not be able to do justice to any one individual subject here mentioned; since each of these is often of sufficient interest to form the topic of discussion for one or more meetings.

One may say that the Difficulties and Emergencies of Obstetric Practice begin some time previous to the occurrence of pregnancy and do not end for at least two months or more post-partum. Following this two months post-partum period we will classify the patient as gynecological. It seems convenient therefore to consider the difficulties and emergencies of obstetric practice in four groups—namely—the anti-pregnancy period, the anti-natal period, the labour period and the post-partum period.

It is very gratifying for those of us who are particularly interested in preventive medicine, and I trust this means each and every one of us, to note how much more frequently patients are consulting us before pregnancy ensues with reference to their physical or mental ability to undertake pregnancy. Such of my patients so far have usually had some rather definite reason for asking advice, yet it is pleasing to see that the general public are more and more realizing the actual value of prevention. In obstetrics we have one of the most fruitful fields of medicine for exhibiting the merits of prevention; and not

least among these is the period before pregnancy is undertaken. These patients usually come to us asking if they are physically strong enough, because they either have or believe they have some physical disability, such as a valvular heart lesion or some form of kidney disease. If the patient is found to be perfectly physically fit, the consultation and examination was certainly well worth the time and money expended. The patient's mind is relieved, often very considerably. If a physical defect is found she is advised accordingly. The patient with valvular heart disease is advised to proceed with pregnancy providing that the heart muscle has compensated well and is not giving signs or symptoms of failure under the average stress and strain of the daily routine of the patient's life. If the heart muscle is not compensating well under those circumstances and does not do so with a regulated daily life, this patient should be advised against pregnancy. The patient with chronic kidney disease, generally speaking is advised against pregnancy. However if

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the kidney function is good with the average daily diet and work we might have to qualify such a statement. This would depend chiefly upon certain factors namely—Is the kidney function normal, and is there any kidney degeneration? Osler's dictum here is an average safe one—"A patient with chronic Bright's disease should not marry. A patient with active pulmonary tuberculosis should be advised not to become pregnant. In the clinically cured cases, I think the patient's ultimate prognosis is much better if she does not become pregnant. For the patient with a definitely small pelvis, one has this wonderful opportunity of telling her long before hand the only possible means of delivering her and getting her a living i.e. caesarean section. The border line cases, with a slightly contracted pelvis may be told of some of the possibilities at or near term, but as these cases can seldom be well judged until the relationship of the child's head and the pelvic brim is made out, and may leave these until that time comes.

Definite foci of infection should be cleared up as much as possible. The questionable teeth should be X-rayed and dealt with accordingly. Infected tonsils, I think are better removed during this period than left. A troublesome appendix is also better removed.

The difficulties presenting during the anti-natal period may be considered in two class: (a) Those due to the pregnancy. (b) Those not due to pregnancy—These two groups will be conveniently discussed as they occur during the first, second or last third of pregnancy.

First Third of Preg.	Second Third	Final Third
A		
1. Diff. of Diagnosis	1. Diff. in Diagnosis	1. Diff. in Diagnosis
2. Toxic Manifestations	2. Toxic Manifestations.	2. Toxic Manifestations.
3. Uterus Displacements	3. Uterine Displacements	3. Uterine Displacements.
4. Hemorrhage	4. Hemorrhage	4. Hemorrhage
	5. Pyelitis	
B		
1. Acute Infections		
2. Circulating Disease		
3. Renal Disease		
4. Pulmonary Disease		
5. Surgical Emergencies		

It is almost clinically impossible to make a definite diagnosis of uterine pregnancy before the end of the first six weeks. Following this period one may have to diagnose between pregnancy and a fibrosis uteri or several small fibroids which cause uterine enlargement. In such cases of doubt one is always justified in waiting and at regular intervals noting the changes in the uterus. If these changes correspond with those of normal pregnancy, one is usually justified in considering the

patient pregnant. At pedunculated fibroid or an ovarian cyst may be separated from the body of the uterus and seldom causes much difficulty in making a differential diagnosis.

The toxic conditions which commonly occur during the first third of pregnancy are namely: Vomiting of pregnancy, ptyalism, hemorrhage—from placental site, neuritis, neuralgia, fibrositis and myositis, peuritis, certain skin eruptions.

It is a well established fact now that diet plays a most important part as a cause of many of the so-called toxic disturbances which occur during pregnancy. One of the best examples being the vomiting of pregnancy. In a case of vomiting we first make sure that the vomiting is due to the pregnancy. If so, make sure that a retroverted or retroflexed uterus is not aggravating the condition. Having done this we now get quite pleasing results with carbohydrate feeding. This may have to be carried out either intravenously, interstitially, per bowel or by mouth or by some combination of these, depending upon the severity of the vomiting. It seems that prophylaxis is again our most logical course here, and this is best done by overbalancing the diet of each patient from the onset of pregnancy with carbohydrates, along with plenty fluids.—(The other toxamias).

It seems good practice to do at least one vaginal examination during this period and if the pregnant uterus is retroverted or retroflexed, which is by far the most common displacement, it should be put in place and a pessary inserted. A retroverted or retroflexed uterus during this period is a common cause of abortion. If the uterus cannot be replaced with the first attempt—the patient may be allowed home for 24 hours with instructions to carry out certain simple exercises e.g. taking the knee-chest positions q. 2 h. for 10 minutes. Often on the second attempt the uterus is either forced up in place or is easily replaced. If this attempt fails the patient is anaesthetized and a further endeavour is made. If the uterus is impacted firmly and cannot be replaced per vaginam it is well to have the patient's abdomen previously prepared for operation. A laparotomy is done and with assistance per vaginam the uterus is brought up into proper position.

Hemorrhage occurring during the first third of pregnancy may mean a threatened or inevitable abortion; extra uterine pregnancy or uterine growths, benign or malign

nant complicating the pregnancy. The threatened or inevitable abortions rarely gives rise to any particular difficulty or emergency. The uterine pregnancy often forms a real emergency. It is best treated by operation when first diagnosed. In extreme cases a blood transfusion just previous to, or at time of operation will often be the means of saving the life.

Coming now to the middle third of pregnancy, we will first deal with the difficulty of diagnosis. It is during the fourth month that any real doubt is found; that is before the patient is feeling life. A differentiation may have to be much between a fibroid and pregnancy or both, and on the other hand an ovarian cyst. The cyst is more readily differentiated as it is usually possible to separate the ovarian cyst from the body of the uterus. If the fibroid is localized or circumscribed the difficulty is not so great, if a generalized fibrotic condition the difficulty in diagnosis is formidable and often time alone will aid in making the diagnosis a definite one.

The toxic manifestations occurring during this second third of pregnancy are usually not as marked as those occurring during either the first or last third of pregnancy. The nausea and vomiting have usually subsided. Those most frequently complained of now are the cases neuralgia, myositis, or fibrositis. If no other definite cause can be found I think one is justified in deeming them due to a pregnancy toxemic. The treatment is one of diet for the most part.

Hemorrhage during the middle third of pregnancy usually means a threatened or inevitable abortion; arival polypus, placenta prina or new growth.

Pyetitis is a fairly common complication of pregnancy. Fortunately most of these cases respond quite readily to medicinal treatment, e.g. when the urine is acid we use potassium citrate in 20 gr. doses g. 4 h. until the urine is made alkaline: The offending organism is usually the bacillus coli. In obstinate cases one may have to instil argyrol into the pelvis of the kidney or even drain. Occasionally one is obliged to do a therapeutic abortion for the patient whose condition tends to grow worse irrespective of all other forms of treatment.

The toxic manifestations which occur during the latter third of pregnancy are mainly pre-eclamptic toxemia, eclampsia and one may include anedental hemorrhage. It seems that if a patient is regularly seen by her physician throughout

pregnancy, it is rarely that she will develop eclampsia. The routine management of pre-eclamptic toxemia is one chiefly of diet and rest. The patient can be carried along with such treatment until the baby is viable, one may then do induction in all cases in which it would be unwise to carry her to term.

The treatment of the eclamptic patient at a near term with the baby living requires careful consideration. Generally speaking I think it wise treatment to use a modified Strongnoff method. The aim being (a) To eliminate toxins as rapidly as possible through all available channels. (b) To assist in delivery if necessary when the cervix fully or nearly fully dilated. (c) To get the patient into labour as reasonably soon as you can if she fails to go into labour herself, and then to assist in delivery when the cervix is sufficiently dilated.

Caesarean section is to be considered for the eclamptic patient even with the normal pelvis—in the case of a patient full term or nearly so, pt. possibly well over 30 with a long, rather firm cervix.

Vaginal bleeding occurring during the last third of pregnancy may mean an impending miscarriage or premature labour: placenta previa; accidental hemorrhage, or new growth. Having diagnosed the case as one of placenta previa, on first explains the condition to the patient and certainly the importance of the patient's keeping in intimate touch with her physician. If satisfied that it is a case of central placenta previa—one asks patient to go to hospital until she is delivered. Then the patient is kept under close observation until at term or as near to it as one can safely get her when she is delivered by means of caesarean section without further vaginal examination. If the case is quite definitely the marginal type of placenta previa, again I think caesarean is the method of treatment. Cases of less marked marginal type particularly multiparous patients may be managed by means of version. In all cases of placenta previa it is good prophylaxis to have the patient's blood grouped and a suitable donor standing by in case one wishes to transfuse the patient with whole blood just before, during or following delivery.

The management of revealed accidental hemorrhage consists mainly in tightly packing the vagina with gauze until the cervix is sufficiently dilated for delivery; and to assist in the delivery by the quickest and safest method, usually the

application of forceps. The management of the rather rare condition of concealed accidental hemorrhage usually calls for a caesarean section with or without hysterectomy as one finds necessary. Again it is wise prophylaxis to have the patient's blood grouped and to have a suitable donor standing by for use either during or just following delivery.

The new growth which is occasionally met with is carcinoma of the cervix. If the patient is near term, the treatment would consist of a caesarean section with a total hysterectomy or a Westheim if the patient's condition would admit of such.

To save time we will leave the acute infections and deal briefly with the others of this group. Heart disease, either valvular or myocardial or both are treated primarily for the heart disease irrespective of the pregnancy. If the patient's condition continues to improve with such management the pregnancy is allowed to continue to at or near term when in many more serious cases a caesarean section under gas oxygen anaesthesia is the safest method of delivery. If the patient's condition grows worse under good cardiac management one terminates the pregnancy. The complication of pulmonary phthisis in the pregnant patient is carried out along similar lines as cardiac cases—namely if the condition improves definitely under good management she is allowed to continue, if not, the pregnancy is interrupted.

A patient with chronic nephritis is well advised not to marry, and if she marries she is better not to undertake pregnancy. If the chronic nephritis patient became pregnant one treats the chronic nephritis and if there is no improvement, or particularly if she gets worse, therapeutic abortion should be done. It is not very unwise treatment to do a therapeutic abortion early for each case with a chronic nephritis.

Among the surgical emergencies, acute appendicitis is fairly common. The treatment being appendectomy, if a definite diagnosis is made during the first forty-eight hours of the onset. The cases diagnosed later may at times be more safely treated expectantly, providing rupture has not already occurred when, of course, drainage must be established and this may be done either in the abdominal wall or by means of a posterior colpotomy. Acute cholecystitis is best treated conservatively, unless there are definite signs of biliary obstruction, when operation for removal of the obstruction and drainage of the gall

bladder established. Salpingitis complicating pregnancy is treated conservatively unless there are definite signs of a spreading peritonitis, when drainage is established, preferably by means of a posterior colpotomy.

The difficulties after labour begins, will now be considered. These are rather varied and numerous but I propose to deal only with the more common difficulties such as prolonged second stage occipito posterior cases, breech, trans and oblique presentations, vaginal hemorrhage. The most common cause of a prolonged second stage of labour in cases where the mother's pelvis is normal, and the baby is normal, is insufficient flexion. This flexion of the baby's head may be increased by properly exacted pressure per vaginam. This must of course be carried out before the head becomes too solidly wedged into the true pelvis. In other cases the most common cause is possibly some disproportion between the mother's pelvis and the presenting part of the baby. The proper management of the small pelvis cases is naturally an anti-natal problem. Generally speaking the final determining factor is the relationship of the baby's head to the pelvic brim. The decidedly contracted cases are dealt with by means of caesarean section at time of election. The borderline cases may escape caesarean section or a traumatic labor by a premature induction of labour.

A safe management of the occipito posterior cases may be summed up as follows: (1) One may leave the case alone providing labour is progressing in a satisfactory manner and the condition of the mother and baby is satisfactory. (2) If interference is required, one may manually rotate and leave to mature or rotate and apply axis traction forceps. (3) Apply Kielland forceps, rotate and extract. (4) Extraction without rotation. (5) Craniotomy rotate if child is dead. The three most common difficulties in Breech presentations are: (a) Impacted breech. The management of the extended arms should be prophylactic, preventing extension. If it does occur—one must pass the hand up and deliver, preferably the posterior arm first then the anterior. In difficult after-coming head cases—one should be ready to apply forceps before making too many attempts with other methods. Personally I am using this method more frequently than the usual text book seems to advise. The impacted breech is dealt with in one of these ways: (a) Hooking a finger

around the groin and bringing down one leg. (b) Bringing down a leg with the breech hook. (c) Disengage the impacted breech and by pushing it upwards into the uterus, then bring down the anterior leg, and complete the delivery as usual.

The management of the transverse or oblique presentation during labour is simple in the early cases or it may be most difficult in cases diagnosed later in labour. In the early cases one may convert it fairly simple into either a breech or a vertex presentation. In the cases which are diagnosed later in labour the problem is different and may become one of the most formidable in obstetrics. The points which one must endeavour to make quite certain of are: (a) Is the uterus tonically contracted. (b) General condition of the mother—temperature, pulse, etc. (c) Is the baby living and in seemingly reasonable condition. If the condition of the uterus is good and the patient's general condition reasonably good, with fairly normal foetal heart sounds, one may be justified then to do an internal podalic version with the patient quite deeply anaesthetized. If the conditions of the patient and the uterus are not good, one should not attempt the internal podalic version, but resort to decapitation or evisceration and extraction. The operations under these circumstances must be carried out with extreme care and as aseptically as possible.

The management of prolapsed cord is not always simple. I will deal here only with the type of prolapsed cord after rupture of the membranes. It usually accompanies such conditions as mal-presentations, contracted or deformed pelvis and polyhydramnios.

In vertex first cases one may attempt replacing the cord and getting the head down in front of the cord, the head is maintained there manually in a flexed position until it is fixed by the uterine contraction; or forceps may be applied. If this fails one may do an internal podalic version if circumstances permit. In breech presentations the risks to the baby are less and usually with care the baby is born alive.

There are certain systemic diseases which may seriously complicate labour, e.g. cardiac disease, pulmonary tuberculosis and nephritis.

The cardiac case is fundamentally a question of heart muscle. At the one should look upon the case as a cardiac problem irrespective of the pregnancy, and

treat it as such. So long as the case is satisfactorily compensating under proper cardiac management, one has little cause to worry. When, however, compensation is failing under proper cardiac management the patient becomes a candidate for a therapeutic abortion.

Pulmonary tuberculosis makes a serious complication for pregnancy. Generally speaking it seems that if the case is active even with proper rest management, and is diagnosed during the first ten weeks, the proper procedure is a therapeutic abortion. The risk of the therapeutic abortion increases the pregnancy advances. On the other hand if the case is not very active, or can be kept under control with proper management, and the patient is particularly anxious for a baby—one may allow the pregnancy to proceed providing the situation is explained and the patient is kept under proper supervision throughout her pregnancy and labour.

Post Partum Period—

DISCUSSION ON PAPER OF W. P. TEW

Dr. Ward Seeley (Detroit): I have been very much interested in hearing Dr. Tew's discussion this morning. In fact, it has given me a great deal more confidence in myself than I have had heretofore. Especially was I glad to hear him say that he also has difficulty in feeling the fontanels in a case of labor, especially a difficult case. I have been much chagrined at times when I found a patient had been in labor for fifteen or eighteen hours and I come to do an examination by rectum or vaginally, that I have been unable to make out the position by the location of the fontanels. I thought there was something wrong with my technic. However, Dr. Tew seems to have the same difficulty. I can agree with him that about the only way to make a certain diagnosis is to feel the ear or the occiput or the brow in these cases in which we are uncertain of our position.

Unfortunately, as far as I am concerned—because I always like an argument—I am going to be unable to disagree with Dr. Tew in his treatment of eclampsia. I feel certain that the pendulum is now swinging backward again to the conservative treatment of this condition. I was brought up in a radical school in the treatment of eclampsia, with Peterson in Ann Arbor, who of course believed, at the time when he did work on eclampsia, that the only method of treatment was the rapid emptying of the uterus. I feel, in emptying the uterus rapidly, we are subjecting a patient, who is already in a serious condition medically, to a very serious surgical risk in addition. I think any of us who has had a moderate amount of experience with the so-called conservative treatment in eclampsia cannot help but see that our results are better. Certainly my mortality rate has been greatly lowered by the conservative treatment of this condition.

One point that Dr. Tew perhaps did not mention in the treatment of the nausea of pregnancy, and that is the mental attitude of the patient. The question of the so-called psychic influence.

There is a school, of course, that claims the nausea and vomiting of pregnancy is entirely a neurologic condition. I feel a case of serious nausea and vomiting of pregnancy, after the ordinary means have been tried at home, such as a high carbohydrate diet every two hours regardless of whether the patient vomits or not, rectal fluids and so on, things that can be done at home with the possible addition of corpus luteum, which for some reason or other does seem to help a certain percentage of these cases, I think after this has been done the patient is distinctly a hospital case. I feel that we get perhaps as much benefit from the transference of the patient from her ordinary surroundings into the hospital atmosphere as we do possibly from the treatment of the patient. Of course, we all believe in giving intravenous glucose perhaps with the addition of insulin and so on.

In the treatment of the posterior position one of the most serious and annoying things that we have to deal with in pregnancy, I feel of course that the question of diagnosis is all-important. That has to be made first. I will not take issue with Dr. Tew on the question of whether or not we wish to rotate the head. I will call attention to the fact that it can be done beautifully by the Bill maneuver, which is a modified Scanzoni, provided you push the head out of the pelvis. Before you attempt the rotation make the fulcrum of the rotation at the head and not at the forceps handle. In other words, the forceps handle should be swung in a wide arc and not simply turned this way.

Dr. R. S. Siddall (Detroit): I think discussing the whole of Dr. Tew's paper is too much. Personally I was interested in one particular part, that is, the treatment of placenta praevia. To me it seems that caesarean section is too radical a procedure for the treatment of placenta praevia. I was trained to treat placenta praevia conservatively. Apparently from statistics and from what I have observed the only advantage in caesarean section in placenta praevia is the fact that we get more live babies. However, it is known that unless the pregnancy is near term our chance of saving the baby is very slight because of the prematurity. As a matter of fact, statistics will show a slightly better result for the baby with caesarean section in placenta praevia but the difference is so slight that to my mind we are not justified in subjecting the mother to the additional risk of caesarean section for the slight improvement in fetal mortality.

The only other advantage that I can imagine is that it gives us the quickest delivery. However, in severe placenta praevia it does not do the thing that we wish, in certain cases. In other words, although it gives the quickest delivery it does not give the quickest way of controlling hemorrhage. The quickest way to control the hemorrhage is one which can be taken up immediately upon the admission of the patient to the hospital, that is, assuming of course that the patient has lost blood, and that is the use of the bag, or in case a bag is not available, a version—a Bryson-Hicks version—or if it is at home and you do not want to do a version a tamponade of the cervix lower uterine segment will control the hemorrhage very well. Incidentally, according to some European statistics it gives very good results as a treatment of placenta praevia.

One of the great objections, I think, to using caesarean section in placenta praevia is that, necessarily, for a diagnosis the patient must have

been subjected to at least one vaginal examination which certainly, in the case of the sagittal section makes the procedure extremely dangerous. In the case of the low section delivery by this method would not be so dangerous but still the low section seems to be subject to the same dangers as the sagittal section although in a lesser degree. Of course, then there is the other side of the question, a woman who has been subjected to a section is subject to later dangers also. There is the danger of rupture in subsequent pregnancy, as well as the fact that when you have once done a section you do not necessarily have to do another section, still it amounts to practically that.

REPLY TO DISCUSSION

Dr. W. P. Tew (London, Canada): Dr. Seeley's point on the mental attitude of the patient in all toxemias, I think, was a very good point. There is no doubt but what the mental attitude of the patient, to begin with, has a very important bearing upon the treatment of the patient. If the patient starts in with the wrong mental attitude you are going to meet with considerable difficulty until you change the mental attitude of the patient. It comes down to a psychical treatment of the patient. Those patients probably form some of our most difficult and trying cases. Dr. Seeley also mentioned the occipitoposterior position using certain type of forceps, pushing the head out of the pelvis and then rotating. I would like to ask Dr. Seeley what forceps he uses for rotating the head after having pushed it out of the pelvis?

Dr. Seeley: I use the Lee modification of Simpson forceps for all forceps cases.

Dr. Tew: I was wondering if you were using the Kielland forceps. I think his procedure is a very good procedure for those who are accustomed to doing it. I like to rotate the head, if possible, with my hand so that I can feel with my hand better what I am doing than I can at the end of the forceps. When I know the head is in proper position then I apply the forceps and I am willing to pull, after having gotten the head in proper position. I think Dr. Seeley's maneuver is a very splendid one for those who are accustomed to the feel at the end of the forceps and know what they are doing. Dr. Siddall mentioned the treatment of placenta praevia. It is rather pleasing to see that we still have some who are adhering to the orthodox and splendid old teaching of the treatment of caesarean section. At the same time I really believe we must be willing to accept certain other methods if we think we are getting better results.

First of all I would like to say that we must divide the placenta praevia cases into their proper categories before we outline a treatment. I am only advocating caesarean section for all cases of central placenta praevia, after having diagnosed them and they are reasonably clean.

For marginal or lateral cases, I think the orthodox method is a splendid method for rather unclean cases. But, I would prefer even there caesarean section because what do you do? You turn the baby and bring it down and the baby acts as a plug. Naturally we are going to meet with a higher fetal mortality and save more mothers. I think with caesarean section for that case we will save more babies and save more mothers.

Dr. Siddall mentioned the so-called "once caesarean always caesarean." I believe, Dr. Siddall,

we are coming to this conclusion; that if the first caesarean is well done and you have a nice, clean scar, that that scar is almost, as healthy, as a normal uterus. I am just speaking of the normal, clean case, and certainly "once caesarean, always caesarean section" doesn't necessarily have to apply.

Dr. Best asked the question of whether I have had experience with the use of magnesium sulphate in eclampsia. I have had no experience with it whatsoever. I have read something of the literature on that but I would rather not answer the question.

ACUTE SANTONINE POISONING FROM WORM POWDERS— REPORT OF CASE

WILLIAM B. NEWTON, M. D.
ALPENA, MICHIGAN

To the physician practicing ophthalmology, cases involving lesions or affections of the visual track due to poisons, are not rare. The effects of methyl-alcohol, tobacco, quinine and other drugs and poisons, when taken in excessive doses or over a too prolonged length of time, is quite well known.

Quite recently we saw a case of acute poisoning which was undoubtedly caused by the prolonged administration of a well known patent nostrum, "Fields Anti-bilious Worm Powders", and which, we think, was correctly diagnosed as an acute santonine poisoning.

History—Norma M., age five years, was referred to us by her family physician for an examination of her eyes, with the statement from her physician that he had first seen her on the day previous and that he thought that she was almost blind.

Patient appeared to be a healthy looking, robust child. Past history negative as to eye trouble. Had a light case of measles five months previous, recovery uneventful, no complications. Patient gave a history of headaches and drowsiness during the past week with frequent attacks of nausea and occasional vomiting. Parents stated that some two months ago the child began to be quite restless at night, groaning and grinding her teeth and that some of the neighbors told them that the child had worms and acting upon this advice they procured some worm powders and began giving these to the child in full doses, twice a week, for a period of some five or six weeks. No laxative was given following the worm powders. Parents stated, that for about a week they had noticed that the child had acted queerly, seemed to grope around when looking for objects around the house; they had also noticed some muscular twitching of the face and limbs but supposed this was due to worms. Patient had presented several slight convulsive attacks, followed by nausea. Bowels had been slightly constipated. Parents history negative.

Examination—A robust child, skin slightly pale with distinct bluish tinge around the eyes. Patient appeared quite nervous and ill at ease.

Slight muscular twitchings about face and extremities were noticeable. Pupils were markedly dilated and did not respond to light stimulus. There was a rolling of the eyes, fixation was impossible, light perception was barely present, no vision for objects or shadows. Slight rigidity of the muscles of the back. All reflexes were exaggerated. Confused mentality, speech and thought somewhat rambling. Urine quite yellow in color, SP. GR. 1026, sugar or albumin not found. Temperature normal. Ophthalmoscopic findings were as follows: Pupils dilated, media clear. There was an intense hyperemia of the entire retina. The retinal veins were engorged and seemed dilated to almost twice the normal size, the arteries appeared quite small. The optic disc was badly blurred, margins obliterated and the whole structure markedly elevated, giving typical picture of an acute papillitis.

Treatment—Free catharsis, diuresis and diaphoresis for the first week, during which time the patient showed a marked improvement. The muscular twitchings abated, the pupils began to contract, the nausea ceased and there was a marked improvement in the hyperemic retina. The disc margins became visible and the child was able to see large objects around the room and could count fingers at six inches. During the second and third weeks the child was up and around the house and free catharsis and diuresis was maintained and diaphoresis was instituted for an hour each day. Vision continued to improve and the fundus cleared rapidly, the pupils contracted almost to normal size and responded freely to stimuli. Vision at end of third week 10/200. We then refracted the patient under atropine and found an error of two and one-half diopters hyperopia and correcting lenses were given which improved her vision to 20/200. At present, six weeks after we first saw her, her vision is 20/200, the fundus presents a slight hyperemia, the retinal veins are slightly engorged and the discs are clear.

The patient shows a steady slight gain in vision, but what the ultimate outcome will be, only time will tell.

NEW SMALLPOX IMMUNITY TEST

A new test for determining whether or not a person is susceptible to smallpox has been devised by Dr. Sanford B. Hooker of the Evans Memorial for Clinical Research and Preventive Medicine, Boston. Determining whether or not a vaccination, and especially a revaccination, has been a "take" is often difficult. The uncertainty and delay thus occasioned can be largely avoided by the use of the new test which is a control that tests the success of vaccination but does not take

its place. The new control test consists of an injection into the skin tissue of heat-killed, diluted virus, instead of an epidermal insertion of living virus. In addition to making it easier to determine immunity generally, the new test provides a safe method of determining the immunity status of persons afflicted with certain skin diseases or of persons who might be inconvenienced at the time by the development of vaccinia following the test with living virus.—Science Service.

TREATMENT OF MENINGOCOCCUS MENINGITIS*

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In the present state of our knowledge we are aware of but one type of meningitis that presents a hopeful prognosis, namely, the meningococcus type. Statistics from all over the world indicate that the mortality in meningococcus meningitis has been reduced from 75% to 25% since the introduction of the specific serum. However, the serum treatment depends upon the early recognition of the disease and its proper treatment.

The first prerequisite for the successful treatment of meningitis depends upon the recognition of the disease clinically. Headache, redigity of the neck, Kernig, Babinski and Brudzinski signs are the classical symptoms of meningitis. Cases occur, however, in which these signs are present and no meningitis exists. Cases of this type Dupre has termed meningism or meningismus. One should, however, not be hasty in designating a case as meningismus unless he has proven it clinically or by means of a cerebro-spinal fluid examination. The cerebro-spinal fluid findings if properly interpreted help to establish the diagnosis.

The fluid in meningococcus meningitis is usually turbid. It shows a sediment or pellicle formation on standing. There is an increase in the number of cells which consists principally of polymorphonuclear leucocytes and some endothelial cells. There is an increased amount of protein and a decreased amount of sugar. Above all there are gram-negative cocci in the smear and in the culture.

The treatment of meningococcus meningitis may be divided into three parts: (1) Specific treatment with serum; (2) Symptomatic treatment; (3) General management.

SERUM TREATMENT

A spinal puncture should be done on every case presenting meningeal symptoms, and serum should be at hand before the puncture is done. A needle with a fairly large bore 22 to 20 gauge should be used, a smaller aperture often becoming clogged, if the fluid is thick. The gravity apparatus should be examined to make certain that the tip fits the needle, otherwise an adapter should be used.

The serum should be warmed to room temperature. The gravity apparatus

should be attached and the serum allowed to run in slowly. The principle of diphtheria antitoxin should be followed in the administration of anti-meningococcus serum namely: large doses should be given as early as possible in the disease. Thirty cc. should be given as the initial dose, and the dose should be repeated every twelve hours until the cerebrospinal fluid is clear and the temperature is down. Arbitrarily, 120 cc. of serum should be given regardless of the cerebrospinal fluid changes.

If no cerebrospinal fluid can be obtained or if no serum can be injected by the lumbar route, a cistern puncture should be done. In infants, however, ventricular puncture is to be preferred to a cistern puncture. In the presence of meningococcemia, evidenced by purpura or arthritis, serum should be given intravenously in addition to subdurally.

As soon as the meningococcus is obtained in the culture from the cerebrospinal fluid, the serum should be tested for its ability to agglutinate the organism. During the war, there was a group of cases in France that did not get well after serum was administered, and it was found that the reason was that the serum used did not agglutinate the type of organism that caused the disease.

SYMPTOMATIC TREATMENT

In case of shock after the removal of cerebrospinal fluid or injection of serum, adrenalin or atrophine should be given hypodermically. It usually requires rather large doses, the average dose of adrenalin for infants being 6 to 10 minims, and of atropine, 1/300 grain. In beginning edema of the lung, heroic doses of atropin have been found useful.

For twitching or convulsions, large doses of bromides or chloral hydrate should be given. I believe that opiates are not to be recommended in cases of increased intracerebral pressure unless other sedatives fail to quiet the patient. Sometimes cardiac

* Paper read before the Jackson County Medical Society, March 19, 1929.

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and respiratory stimulants are indicated. Caffeine and aromatic spirits of ammonia have been found effective for the purpose.

Headache, which is a cardinal symptom of meningitis is best relieved by the withdrawal of cerebrospinal fluid. Cold applications also afford some relief. Constipation which is one of the accompanying symptoms of the disease should be counteracted by means of a saline cathartic.

Herpes labialis is frequent in the suppurative forms of meningitis and may be annoying to the patient. The application of vaseline or cold cream usually suffices to allay the irritation which generally subsides within a few days. In arthritis complicating meningococcus meningitis, salicylates may be given, though they are usually of no avail. For conjunctivitis, atropin may be used locally.

GENERAL TREATMENT

Isolation: Meningococcus meningitis is an infectious disease which at times becomes epidemic. However, whether the

disease is epidemic or endemic, the patient should be isolated and precautions should be taken to prevent its spread. Most hospitals admit cases of meningococcus meningitis into special meningitis wards or in private rooms with special nurses.

Complete Rest: Every nervous disease requires rest, meningitis particularly. A quiet, well-ventilated room should be provided for the patient.

Food: Nourishment should be given in all stages of the disease. A soft diet is to be recommended as in any other infectious disease. Concentrated high caloric food should be the rule. If no food can be given by mouth, because of vomiting or because the patient is in coma, gavage or rectal feeding may have to be resorted to. This may be especially necessary in the later stages of the disease. Ten per cent glucose may be given intramuscularly to advantage if the patient refuses food.

Blood transfusion may be given advantageously in severe cases.

CANCER RESEARCH MAY FOLLOW FOUR LINES, COMMITTEE FOUND

In a report never before made public, the subcommittee on cancer research, appointed by the conference of consultants called by the Surgeon-General of the U. S. Public Health Service, suggested that the Public Health Service could carry on cancer research along four lines: statistical study, study of occupational cancer, study of the general biochemistry of the cell, and study of various phases of radiation. This is the report which Senator Wesley Jones, chairman of the Senate Commerce Committee and its new cancer subcommittee, has mailed to scientists throughout the country in order to get their opinions. Later it will be discussed at the hearings of the cancer subcommittee.

"The United States was the first government to publish a statistical volume on the mortality from cancer," stated the report. This volume gives all the facts obtainable from the census records up to 1914. It should now be complemented by another volume covering the time since 1914, the committee advised. The study of occupational cancer cannot be carried on by private institutions so well as by the government, because the material is so widely scattered.

"For example, we know but little of the cancers of tar workers in the United States," stated the report, "of the occurrence of cancer in garage workers, whose hands are continually in contact with oils; of the spatterburn cancers seen in workers in the steel mills; of brass and dye workers' cancer. If the widely scattered information concerning these types of cancer could be collected and studied, facts important both to the problem of the causation of cancer and to industry would be immediately obtainable."

More fundamental researches on the general biochemistry of the cell which might be carried out in existing laboratories were summarized as follows:

"Tissue cultures offer one method of approaching this problem. We still lack information as to the difference between the cancer cell and the normal cell. If cancer cells and normal cells can be grown continuously in culture and the difference noted between the two, either in morphology or in response to radiation, or to physical or chemical agents, it might lead to the discovery of methods, chemo-therapeutic or other, which would damage the cancer cells and leave healthy cells untouched. If this happy discovery could be made we would be approaching a cure for cancer. Similar general biological work should be encouraged at institutes like the Marine Biological Laboratories at Woods Hole, which would lead to greater knowledge of the cause of growth and death of cells. Any investigation of this type may well be expected to throw light upon the cancer problem which is largely an understanding of the uncontrollable growth of certain groups of cells in the human body.

"There are many other problems of the greatest importance still unsolved," the report continued. "Among these are the standardization of the measurement of X-ray and radium radiation by a single standard unit. Also the study of methods of measurement of radiation of longer wave lengths than X-ray, from the ultra-violet to the electro magnetic groups with an investigation of their biological effects."—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

INDUSTRIAL HEALTH CONSERVATION

A survey of the health departments now established by many of the larger and medium sized industries in the state, convinces one of the increasingly favorable attitude toward all measures, promoted by the firms themselves or by community agencies, for safeguarding or improving the health of the workers. Conservation of the health of industrial workers is no longer looked upon as an experiment or a fad but is today recognized by both employers and employees as of the utmost importance. The employee realizes that it means a higher physical tone, less time lost through illness or disability, better working conditions and a greater income. To the employer it means increased production, lessened labor turnover, a mutual understanding, greater loyalty and improved morale on the part of employees.

While industrial health work was at first limited largely to first aid in injuries and reduction of health hazards, it is now conceded that it should include all matters and conditions which conduce to the physical, mental and also the moral welfare of the employee during working hours.

Industry, recognizing that the physical condition of the human element is a prime factor in production, has gone far in helping to solve the problem of the health and efficiency of the worker. Many industries now include illness as a factor to be reckoned with in their safety work, since they find that a large percentage of accidents are the result of abnormal health conditions. They reason that the greatest single cause of accidents is carelessness, and that the principal causes of carelessness are worry and illness. So, to prevent these causes they must help to remedy conditions outside their boundaries.

Statistical records of disablement of workers show a tremendous loss. Naturally, accident prevention and care first demanded industry's attention; it found that many poisonous substances used and many modern processes carried new elements of danger; it studied the effects of fatigue and its relationship to production, also the relationship of accident frequency to health. It found that illness causes from eight to ten times as much absenteeism as accidents; that wage earners lose an average of six to nine days each year

on account of sickness. This translated into dollars for loss of wages and loss in production, to say nothing of lessened efficiency, proves it to be a tremendous economic problem, running into millions annually. Close analyses have shown that nearly half of this disability is preventable.

During the last fifteen years many industries have established extensive health departments. The scope of their work has changed greatly in recent years, becoming more inclusive, until it is now the policy of some larger establishments to extend their health department's supervision, through the plant physician, to the matter of plant hygiene and sanitation, general welfare and health education. They have discovered that industrial hygiene or health supervision does not stop at the door of the work shop but touches home and community interests.

It is our progressive leaders in industrial and mercantile pursuits who have recognized the question of economics involved in the health conditions of employees and have done great pioneer work on this problem. We believe that the available knowledge and experience, particularly from those establishments that have sensed the importance of competent industrial health and medical service, should be gathered by the State and various welfare agencies and be put to practical use throughout our extensive industrial field, much of which now knows little about the subject, and practices less.

The most important features of industrial hygiene, as now conducted, that aid or contribute to public health, are physical examination of all applicants for employment, the removal or correction of remedial defects, the mental and physical "adjustment of the man to his job," the prevention or control of communicable diseases, the establishing of plant nursing service, instruction of individual health care, the keeping of records and reporting of accidents and illnesses, and cooperating with family physicians, dentists, and local health officials in maintaining health.

One of the interesting and profitable features of the health survey in industries conducted by the Michigan Department of Health is the discussion with plant officials and executives in the medical and welfare service of the relative merits of certain

definite objectives of a health department to discover how near industrial plants are approximating them and to note results of their actual experience.

The following definite objectives, as recommended by the Commissioner of Health * (Jour. A. P. H. A., December, 1924, by Dr. Guy L. Kiefer) were presented as some special functions of an Industrial Health Department.

1. The physical examination of all applicants for employment and of workers returning after illness.

2. The periodic re-examination of all employees; more frequent attention to those who have physical defects that need following up.

3. The examination of any and all employees who may be indisposed, for the purpose of diagnosis and advice.

4. The examination, upon request, of all employees who may be under the care of an outside physician, for purposes of co-operation and consultation.

5. The surgical care, as far as possible, of all company accident cases.

6. General health education by means of literature, posters, bulletins, lectures, etc.

7. Instruction on mouth hygiene and care of the teeth.

8. General supervision of plant sanitation, heating, food inspection, etc.

9. Investigation, by nurses, at the homes of all sick cases, and general nursing advice, as far as possible, of all such cases.

The relative importance of these producers is found to vary in different types of industries and under different conditions. In several larger plants with well developed departments they have been much expanded.

The universally favorable attitude of industries toward this nature of the health department's service is evidenced in the very cordial reception accorded by the officials of the establishments visited in the survey. There is special significance in their expressions of pride in their accomplishments and the contemplated improvements in their health departments; their eagerness for suggestions, and their ready, helpful recommendations. In almost every plant there are plans to extend the health service, none having any desire to discontinue or even curtail it. F. A. P.

GERMANY APPROVES TOXIN-ANTITOXIN

Under the heading, "German Physicians Approve Vaccination," a brief news item

from Essen, Germany, dated June 26 and sent out by the Associated Press reads:

"German physicians in their 48th annual meeting Wednesday approved the American method of diphtheria protective vaccination, which was used during 1928 for 100,000 Berlin school children."

The acceptance of toxin-antitoxin immunization by the German medical profession is indeed a triumph for American medicine. Toxin-antitoxin is distinctly an American product. Dr. William H. Park of New York, Dr. E. M. Houghton of Detroit, and several other men in the biological field did the pioneering work. As is so often the case, the final result was the composite of the work of many men, but they were American men.

Toxin-antitoxin has now been used to immunize approximately one million children in Michigan. Many other states have given similar amounts. The 1921 diphtheria cases in Michigan totalled 12,075, with 954 deaths. At that time the free distribution of biologic products for the prevention of diphtheria began. The 1928 records showed only 3,729 cases and 385 deaths.

The change in diphtheria rates after the use of toxin-antitoxin is so striking that it is attracting the attention of the world, as a distinctly American contribution to the welfare of mankind.

D. M. G.

CANINE SELF DEFENSE ILLEGAL

The Supreme Court in a recent decision was held that a dog does not have a right to defend itself by biting, even though stepped on by a person.

This interesting case has direct bearing on the spread of rabies. The facts were that a person accidentally stepped on a dog that was minding its own business, and the dog in turn bit the party who stepped on it. The party who was bitten asked damages of the owner of the dog. The dog owner claimed that the dog had been assaulted and had a right to defend itself in a truly canine way.

These two differences of opinion were taken to the Circuit Court and later to the Supreme Court. The majority of opinion of the State Supreme Court was to the effect that the law of canine self defense does not relieve the owner of the liability for injury to the person who inadvertently steps on the dog.

Experience in many places is to the effect that the occurrence of rabies in dogs

who receive the innoculation of canine antirabic virus is very small as compared to that in dogs that have not been so treated.

Meningitis cases reported from January 1, 1929, to June 25, 1929, total 1,321. This is in contrast to the 276 cases occurring during 1928, and the average of 156 cases for the past five years. Deaths from this disease up to May 1, 1929, reached 330. Four counties, Saginaw, Genesee, Oakland and Wayne, have reported by far the larger percentage of the cases. With the exception of Muskegon and Ingham, no other counties seem to have suffered greatly. It is hoped that the warmer weather may result in a decreased incidence of the disease. D. M. G.

"The most difficult problem of a diphtheria immunization campaign is that related to immunization of the pre-school child," writes Dr. S. J. Crumbine, field secretary of the conference of State and Provincial Health Authorities of North America, and Director of the American Child Health Association, in the news bulletin of the Conference. Dr. Crumbine was commenting on the recently adopted plan of the Michigan Department of Health for securing immunization of pre-school age children through the family physicians. He concludes, "Particularly important and desirable is the plan of making an effort to secure the co-operation of the physicians of the state as indicated by the letter addressed to the doctor."

ENGINEERING NEWS

The summer program of testing highway water supplies and posting the safe sources was practically completed by the middle of July. All of the completed trunk lines of the state were covered, and in addition some of the main county roads, especially those leading to the larger resorts. There was an increase of about 200 samples this year over last year, the same increase that was shown last year over the year before. The percentage of safety has also increased, though the final compilation has not yet been made. The number of Upper Peninsula samples examined was twice as high as ever before.

The new water supply and sewerage system for Camp Grayling, construction of which was supervised by the Bureau of Engineering, has been finished. Chlorination of the mains was the final step. This gives to the camp complete and up-to-date sanitary facilities.

Six representatives of the Bureau of Engineering are working on resort inspection, each one assigned to a district. There are seven fundamental requirements upon which the resorts are rated, a safe water supply, sanitary toilet facilities with proper sewage disposal, satisfactory disposal of garbage, a sanitary milk supply preferably from tuberculin tested cattle, clean grounds reasonably free from flies and mosquitoes and with proper rubbish disposal, cleanliness of food handled and of food utensils, and clean and adequate bathing facilities.

Through special arrangement with the Department of Agriculture, more careful attention will be paid to milk supplies than has been possible in previous years.

Detailed plans are now being drawn up for im-

proved sewage disposal systems at the state institutions. Surveys upon which the plans are based have been completed. This activity is a part of the state program of stream pollution control. E. D. R.

CHILD HYGIENE

The maternal mortality study that has been carried on for the past two years has been completed, with the exception of the cases that may be queried by the Federal Census bureau.

Demonstration programs in prenatal nursing are being carried on by nurses from the Bureau of Child Hygiene and Public Health Nursing in three counties, Clinton, Ingham and Ottawa.

Breast feeding surveys are in progress in four counties, Cheboygan, Dickinson, Gladwin, and Gogebic. These, also, are being carried on by department nurses.

PREVALENCE OF DISEASE

	June Report			
	Cases Reported			
	May 1929	June 1929	June 1928	Average 5 yrs.
Pneumonia	727	488	453	392
Tuberculosis	688	555	554	528
Typhoid Fever	19	15	22	33
Diphtheria	393	402	332	352
Whooping Cough	1,157	782	658	528
Scarlet Fever	2,044	1,323	941	994
Measles	4,271	2,752	3,712	2,670
Smallpox	223	286	223	244
Meningitis	367	287	28	17
Poliomyelitis	4	5	3	3
Syphilis	1,415	1,396	1,563	1,318
Gonorrhea	719	766	981	869
Chancroid	27	42	7	9

CONDENSED MONTHLY REPORT

Michigan Department of Health Laboratories

Lansing Laboratory—				Total
Throat Swabs for Diphtheria	+	—	+-	
Diagnosis	36	355	.....	1149
Release	103	98	.....	.....
Carrier	7	525	.....	.....
Virulence Tests	16	9	.....	.....
Throat Swabs for Hemolytic Streptococci .....	.....	.....	.....	761
Diagnosis	100	135	.....	.....
Carrier	55	477	.....	.....
Throat Swabs for Vincents	48	341	.....	389
Syphilis .....	.....	.....	.....	9234
Kahn	1497	7617	114	.....
Wassermann .....	.....	2	.....	.....
Darkfield	1	3	.....	.....
Examination for Gonococci..	169	1317	.....	1486
B. Tuberculosis .....	.....	.....	.....	587
Sputum	73	474	.....	.....
Animal Inoculations	5	35	.....	.....
Typhoid .....	.....	.....	.....	208
Feces	3	60	.....	.....
Blood Cultures .....	.....	66	.....	.....
Widals	2	68	.....	.....
Urine	1	8	.....	.....
B. Abortus	5	53	.....	58
Dysentery	2	34	.....	36
Intestinal Parasites .....	.....	.....	.....	9
Transudates and Exudates..	.....	.....	.....	583
Blood Examinations (not classified) .....	.....	.....	.....	154
Urine Examinations (not classified) .....	.....	.....	.....	419

Water and Sewage Exam- inations	1220
Milk Examinations	129
Toxicological Examinations	
Autogenous Vaccines	2
Supplementary Examina- tions	231
Unclassified Examinations.....	643
Total for the Month.....	17304
Cumulative Total (Fiscal year)	186053
Increase over this month last year	2649
Houghton Laboratory—	
Examinations made— Total for the Month.....	1759
Cumulative Total (Fiscal year)	19300
Increase over this month last year	434
Grand Rapids Laboratory—	
Examinations made— Total for the Month.....	6548
Cumulative Total (Fiscal year)	79969
Increase over this month last year	335
Typhoid Vaccine Distributed, c.c.	991
Diphtheria Antitoxin Distrib- uted, units	17217000
Diphtheria Toxin Antitoxin Distributed, c.c.	9640
Silver Nitrate Ampules Dis- tributed	8316
Scarlet Fever Antitoxin Dis- tributed, Pkg.	36
Scarlet Fever Toxin Dick Test Distributed(c.c.	1260
Scarlet Fever Toxin Immuni- zation Distributed	1092
Smallpox Vaccine Distributed, points	2990
Bacteriophage Distributed, c.c.	1220

GIANT APPENDIX WEIGHING ONE POUND SIX OUNCES

The appendix in the case reported by E. Dunbar Newell, Earl Campbell and J. Marsh Frere, Chattanooga, Tenn., an enormous pear-shaped cystic mass, measured 7 by 8 by 16 cm. and weighed 659 Gm. The lumen at the site of removal from the intestine was 3 cm. in diameter. No acute inflammation was seen and the lumen was open from end to end, neither stricture nor stenosis being present. Microscopic examination revealed a thick dense wall composed entirely of fibrous tissue. No lining membrane was found, and only a flat, scant, serous coat was present. A diagnosis of mucoid cyst of the appendix was made.—*Journal A. M. A.*

EXTENDING THE SERVICE LINE

(Wisconsin Medical Journal)

With the development of "bigger and better" organizations in the industrial world of America, a great premium is being put on "executive capacity" of the managers of the enterprises. Roughly defined, executive capacity consists in the ability, on the part of its possessor, to forego doing anything he can get another to do approximately as well as he can himself.

The logical demands of—and our own pretensions in—the practise of modern medicine call for a larger exhibition of executive capacity on the part of its practitioners. Doctors must learn to do fewer things and direct more. Otherwise it is

inconceivable that we shall ever catch up in the utilization of our present vast store of available knowledge.

It is many years since doctors transferred many of the functions incidental to the care of the sick to trained nurses. Many of the laboratory procedures are now done as well as, or better, by single-minded technicians. Many more transfers must be negotiated to free medical men of petty detail and to clear the paths for very important steps in case handling, now crowded out.

Cabot many years ago made a very clear case for "hospital social service" as an adjuvant of the conventional treatment given by doctors and sick room nurses. He carried much more conviction to nurses and social workers than to physicians who, presumably, should have been able to understand him better. The writer will send a carton of cigarets to the reader who offers the best explanation of why practising physicians gave Cabot the icy stare.—H. E. D.

CLEVELAND CLINIC FAMOUS FOR RESEARCH ON BIPOLAR THEORY

The Cleveland Clinic Foundation, which was wrecked by fire and explosion on May 15, was the site where part of the research work was done that resulted in Dr. George W. Crile's famous bipolar theory of living processes. To the layman, Dr. Crile is perhaps best known as a leading surgeon whose treatment of goiter has been strikingly successful. To the scientist Dr. Crile is known for his theory of the electrical nature of all living processes. It is an electric force that builds up and maintains the form and structure of all living cells, Dr. Crile has concluded from his investigations.

The famous goiter treatment which has restored thousands to helpful, happy lives, developed as a side issue of the research into the nature of life which Dr. Crile has conducted since 1898. The impetus for this study arose when Dr. Crile as a medical student saw, for the first time, a patient die whose organs were sound, who had not lost any large amount of blood, but who was a victim of what is known as surgical shock. Shock in this case resulted from an accident, but it also follows surgical operations and is one prominent cause of death after operations. Dr. Crile has practically eliminated surgical shock by his pre-operative treatment of his patients. The consequent exceedingly low mortality after his operations has made him famous. Besides eliminating danger, his treatment makes the operation much less of an ordeal for the patients, many of whom awake from a peaceful sleep to find that the dreaded operation is all over, and that convalescence is easy. By inducing a cheerful frame of mind in the patients, using a mild sedative before operation and an odorless non-suffocating anesthetic, and by using local anesthetics on all sensitive tissues before cutting them, Dr. Crile has achieved his remarkable results.

Starting as a medical student on a life-long search for the underlying causes of fatigue, exhaustion and death, Dr. Crile found that "to understand the nature of exhaustion and death, it was necessary first to understand the nature of life itself." His work, pursued in London, Cleveland and the war hospitals in France, included studies of the circulation and respiration, of blood chemistry, of cells, and of biophysics. It resulted in his theory of the electrical nature of life.—*Science Service.*

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AUGUST, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

OLD AGE

The phases of human life constitute a subject which has aroused the attention of man for ages. It is incomprehensible to him why so elaborate and meticulous a being should evolve with such purpose and completeness to a stage approximating perfection only to disintegrate and finally decay. The terminal stages of life in particular are least understandable since it is then that the teleological aspect of life is less apparent. Accordingly various views on old age have gained popular credence. Foremost among these is the idea that old age may be forestalled. A number of scientific and medical men (Metchnikoff, Horsley, Voronoff and Steinach, among others) have supported this attitude, in most cases with less scientific evidence than sanguine reliance upon their own preconceptions.

It is quite evident that the old person differs in physique, functional activity, mentality, and outlook from the younger individual, and it is particularly gratifying to meet with a thoughtful work on senescence in which the author is constantly aware of these differences. Professor Warthin's recent work on old age* deals with the problem from the standpoint of a professional pathologist.

The theme of the work is bound up in a conception that life is a sequence of three fundamental stages—evolution, maturity, involution—the limits of which are predetermined by the hereditary organization of the individual. The first stage is characterized by a series of growth and developmental sequences which result in the formation of the mature individual from a fertilized egg. "After birth the human infant passes its first months of life in a more or less vegetative state, then through a purely animal period followed by successive stages of mentality imitating in many ways the cerebral phenomena of primitive races. Then follows the rapidly ascending curve of mental development . . . to the more serious preparatory and early working period of the age of puberty." As the individual reaches maturity "growth is reduced to the minimum of necessary tissue restoration, which tissue increase slows gradually until it ceases." There are however minor growth changes in the heart, bones, panicle and musculature during the period of maturity. At this period both sexes "are now prepared for the consummation of their greatest function, the propagation of their race."

During the premature and mature periods of life, progressive growth is not the only mechanism of development. "Involution is as necessary as growth in the complete building plan of the animal organism." Certain organs serve a period of usefulness during a part of the growth stages of the individual only to undergo regression when they are no longer useful. Among the organs which undergo such involution are the gill slits, notochord, Wolffian body, chorionic vesicles, lanugo, umbilical cord, urachus, ductus arteriosus, milk teeth, and thymus. "Throughout the whole period of growth up to maturity the progress of the individual life consists of an interlocking of growth processes and involution processes, all of which are necessary to complete development. The

* *Ald Age, the Major Involution, the physiology and pathology of the aging process* by Aldred Scott Warthin. 199 pages. 29 illustrations. Paul H. Hoeber, New York.

essential tissue changes of all these developmental involutions are parenchymatous atrophy and degeneration with vascular obliteration and sclerosis. . . . They are identical in kind with the tissue changes of the major involution which we call old age." In all cases they represent the regression of parts of the body which have filled their purpose. "Involution means fulfillment of purpose and takes place only when this end has been accomplished."

Likewise when the individual has fulfilled his purpose to the race, when he has propagated and assured his progeny of survival to a mature stage, he has become biologically useless "and he disappears from the scene by the gradual fading away process of senescence. Senescence is . . . a gradually developing complex, or syndrome, of organ involutions and tissue involutions" evidenced "histologically by well defined tissue lesions and manifested clinically by descending functional curves."

The functional changes of senescence (to which Warthin gives particular attention) affect all of the body systems. The reproductive capacity shows generalized regressive changes, height and weight decrease, the bones and joints become less efficient, blood vessels and cartilages calcify, lymphoid tissues become atrophic, sight and hearing become dim, the circulation rate drops and becomes irregular, and urinary function is disturbed. These changes however do not occur simultaneously but in varying order. Definite disease processes frequently complicate the general physical involution and lead to death.

The process of aging, the generalized inevitable involution, presents a dreary and foreboding picture to the individual who begins to realize that he too must be its subject. The period of this realization is a crisis for many people who lack an adequate philosophical attitude, who become disillusioned and despondent as old age creeps upon them, or who deny the obviousness of old age changes. "Fortunately, the cerebral functions have not yet completed their possibilities of development at the beginning of senescence and these may continue an ascending curve for perhaps twenty or more years after the first signs of senescence, until senility is well established. Mental and spiritual evolution is thus assured to the senescent individual while other functions are weakening. . . ."

GENIUS

A recent announcement by Thomas Edison that he intends to initiate a nation wide search for a boy of sufficient promise of genius to carry on the work of the East Orange Laboratories has brought forth speculation as to the method of apprehension of the potential genius. Several eminent psychologists have expressed their views on the selection of potential genius, each suggesting that candidates be subjected to eliminate intelligence tests and that the ten or more boys who rate highest be given educational advantages which will bring out the characteristics of genius which Edison desires in his successor.

Although the education of a capable boy is not to be discouraged the likelihood of developing a genius-successor to Edison is small. A genius is in reality judged and identified by his past accomplishments rather than, as generally thought, by the possession of certain desirable characteristics. Edison is a survivor of a past era, a period of individual achievement; the big things in modern industrial research are accomplished in group research laboratories rather than by individuals. There is neither need nor desirability in having one man attempt to encompass a whole field.

PHYSIQUE AND DISEASE

Within the past few years physicians have witnessed many changes in method of diagnosis and treatment as well as in attitude toward sick people, but few of these changes are of more general interest than the recent studies on the relation of constitutional body types to disposition to certain disease. A considerable part of the art of medicine, that is, the consideration of individual difference in the diagnosis and treatment of disease, has been concerned with the grouping and comparison of cases. Although such grouping usually pertains to the actual disease condition rather than to the physique of the patient, the writings of prominent clinicians, including such men as Hippocrates, Sydenham, John Hunter, Rostan, and Hutchinson, show evidence of the appreciation of certain of the physical characteristics of the patient which are associated with the predisposition to disease.

The Scotch clinician, Thomas Laycock, was cognizant of the relation between the tendency to disease and the body constitution, and his series of lectures (1862) forms a basis for a modern concept of the

human constitution. He divided men into several groups on the basis of their physical and mental characteristics, pointing out that each class was characterized by specific ailments. Although this work was a real forward step, it did not stimulate other similar studies. It may have been subjected to the same skepticism which was accorded the widely exploited doctrines of phrenology and physiognomy; at any rate the stress given the extrinsic agents of disease by such bacteriologists as Pasteur and Koch rendered the human constitution for the time a minor factor in medical affairs.

During the next fifty years, however, the new sciences of endocrinology, immunology, and genetics had given rise to many new concepts as to the nature of disease. With the change in emphasis on its nature and through the establishment of new technical methods, a number of men, notably de Giovanni, Viola and Pende in Italy, Bauer and Kretschmar in Germany, and Draper, Stockard and Bean in this country, have directed their attention to the clinical application of the classification of constitution. Their work indicates that there are ten or twelve specific constitutions which are of clinical importance. Each type of constitution is associated with a diathesis toward certain diseases. Furthermore, this idea has spread to consideration of individual organs. A stomach having an ulcer in its wall is looked upon not as a previously normal organ now attacked by pathogenic organisms, but as an organ which is morphologically deficient and thus predisposed to a peculiar lesion. Other examples might be mentioned.

The ideal condition for the study of disease is that in which due attention is given to both intrinsic and to extrinsic (bacterial) factors.

THE INTERNATIONAL LIST OF THE CAUSES OF DEATH

W. J. V. DEACON
(Michigan Department of Health)

An interesting old book published more than a century ago by Cullen and entitled "First Lines of the Practice of Physic" makes the statement which is amusing today. "The distinction of the genera of diseases, the distinction of the species of each, and often even that of the varieties I hold to be a necessary foundation of every plan of physic, whether dogmatical or empirical."

Looking at this statement from a mod-

ern standpoint it would mean that if you could not name a disease exactly you could not treat it. A good deal of attention was given to the subject of nosology in the early days, but there was no well recognized system by which we could compare the causes of death between one community and another. Dr. William Farr, who is regarded as the father of modern vital statistics and who is responsible for the foundation of the English system in 1837, found that one of his first duties was to prepare a "statistical nosology." Dr. Farr said at that time, "The advantages of a uniform statistical nomenclature, however imperfect, are so obvious that it is surprising no attention has been paid to its enforcement in Bills of Mortality."

"Each disease has in many instances been denoted by three or four terms and each term has been applied to as many different diseases. Vague inconvenient terms have been employed or complications have been registered instead of primary diseases. The nomenclature is of as much importance in this department of inquiry as weights and measures in the physical sciences and should be settled without delay."

The first Statistical Congress to prepare a report on this subject met in Brussels in 1853 and there were several lists attempted and finally at the time of the World's Fair in Chicago the International Institute of Statistics was organized and the first formal international list of the causes of death was prepared. This was revised in 1900, 1909 and in 1920, it being determined that the list should be revised each ten years, preferably on the ninth year in order that the new list might be ready for the new census taken decennially in the United States on the even ten years and in England on the one year.

The American Medical Association was of great assistance in the preparation of these original lists and one of our own Michigan men, Dr. Victor C. Vaughan, was active in the American Medical Association participation in this work. Since 1920 a committee of the American Public Health Association, working jointly with several committees representing foreign countries, have been preparing for the fourth decennial revision which will be made in Paris in October of this year.

There are forty-two countries subscribing to the International Institute of Statistics and the adoption of the standard revision will become effective in all of those countries and probably others as well and

as a result we may compare Michigan statistics with the statistics of Japan or Norway or Italy or New South Wales or almost any other country.

It must be remembered, however, that this list is a list of the causes of death and will not serve as a nomenclature for diseases, as many pathological conditions must necessarily be described which are not in themselves fatal.

Perhaps few physicians realize the influence of the statistical presentation of lists of diseases and of deaths. When a physician is called to see a case he naturally takes into consideration the age and sex of his patient because he well knows the effect of age and sex distribution in certain diseases as well as the seasonal and geographical distribution. If he finds his patient suffering from a rash and the patient is a child, he naturally looks for certain other conditions which will aid his diagnosis, but if the patient is an adult, he is very liable to look for an entirely different set of conditions. Whether he realizes it or not, he is applying that knowledge which has been prepared for him by the study of vital statistics.

The American delegation to the Paris convention will have a meeting in New York during July and will discuss and edit their final report. The delegates to the International Institute of Statistics are appointed by the Secretary of State on formal invitation by the French government and include: Haven Emerson, New York; George H. Van Buren, New York; William H. Guilfoyle, New York; W. J. V. Deacon, Michigan; Jessamine S. Whitney, New York; Emlyn Jones, Pennsylvania; Edgar Sydenstricker, and T. F. Murphy, Wash.

MISLEADING CIGARET ADVERTISING

(Journal Indiana Medical Association)

The food and candy manufacturers are entering a very righteous and just protest against the vicious and misleading cigaret advertising which offers as a slogan, "Reach for a Lucky instead of a sweet." The offending advertising ought to be suppressed in the interests of public health, for the suggestion offered to smoke rather than eat is apt to encourage the harmful use of tobacco and discourage the use of real food. The plea to young women and girls to try to secure or maintain a slim and willowy figure through the use of tobacco also is positively vicious. Furthermore, it is such fool advertising that gives the anti-tobacco societies encouragement to renew their efforts to prohibit the manufacture and sale of tobacco in any form, and if such harmful propaganda is permitted to continue it may be possible that some time in the near future we will be confronted with a proposed amendment to the constitution that will be analogous to the eighteenth amendment, which went over before we hardly knew what was going on.

THE EDITOR'S EASY CHAIR

DISCOVERY OF THE LYMPHATICS

A speaker at the Post-Graduate Clinics held in Detroit in June, referred in his address to the importance of the lymphatics and mentioned the fact that their discovery by Aselli had not received the attention that the importance of the discovery merited. This leads us to say that Aselli's discovery had been largely over-shadowed by Harvey's epoch-making announcement of the circulation of the blood and probably also by the fact that Harvey himself was inclined to discount the work of Aselli as being of minor importance. Vesalius was of course the great anatomist of the Renaissance period. He was followed by a large number who may be designated post-Vesalian anatomists. We have a great many anatomical discoveries during the seventeenth century. It might not be so very rash to say that during the latter half of this century there were a greater number of anatomical discoveries than at any other similar period before or since. The names of these men immediately call to mind many anatomical structures which each anatomist was the first to describe, for it was long a custom to commemorate the discovery by associating the anatomical part with the name of the anatomist who first described it. For instance, we have Malpighi, Bartholinus, Wirsung, Highmore, Pacchioni, Havers, Bruner, Steno, Peyer, DeGraf. Most of these men did their work between 1625 and 1700.

DETAILS OF LIFE MEAGRE

Our first definite knowledge of the lymphatics was the result of the researches of Aselli or Ascellius as he was also called. This anatomist was of patrician blood, born in Cremona, Italy in 1581. He studied medicine at Padua as did also Harvey and a number of other noted physicians of the time, and afterwards located in Milan. His discovery of the lymphatics which he called *venae lactae* was made in 1622. For this and other discoveries he was honored by his alma mater in being elected to the Chair of Medicine in Padua in 1624. He died in 1626 at the early age of 45 years. His *De Lactibus* was published a year after his death. He and Harvey were contemporaries. At the time of the discovery of the lymphatics, Harvey was 44 years old.

EARLY ANIMAL EXPERIMENTATION

Aselli tells how he perchance discovered the lymphatic circulation. He was conducting an experiment on a dog for the purpose of demonstrating the recurrent nerves. This was an early instance of vivisection. Watching the movement of the diaphragm on the same animal he observed a number of "white cords" so to speak, scattered over the mesentery and intestines. His first conclusion was to the effect that they were nerves, but a second observation assured him that these "cords" were vastly different from nerves. Pricking one of them with a sharp knife a milk-like liquid spurted forth. He called this to the attention of a number of notable spectators who were witnessing his animal experimentation. Not only did Aselli discover the lymphatic vessels but he also observed the presence of valves in the lymphatics. He was the first to recognize the function of these valves.

It was not, however, until six years later that the lacteals were demonstrated in man. In 1628 a criminal was examined shortly after execution.

PECQUET AND THORACIC DUCT

Aselli's discovery per se was not of capital importance and remained an isolated bit of knowledge for a quarter of a century until Jean Pecquet, a Frenchman, published his *Experimenta Nova Anatomica* in 1651 in which he announced his discovery of the receptacle of chyle and its continuation into the thoracic duct. He described these structures accurately, showing that Aselli's lacteals pour their contents into the receptacle and that the thoracic duct, a continuation, pours its contents into the venous system at the junction of the jugular and subclavian veins. This showed Aselli's discovery in a new light. Harvey's discovery appeared between that of Aselli and Pecquet, as a result Pecquet's discovery was accepted without question. Both Aselli's discovery and that of Pecquet were confirmed by Rudbeck, a Swedish professor of anatomy in 1653.

DEATHS

DR. F. R. ROBSON

On the evening of Friday, May 24, Dr. F. R. Robson of Reading, a well loved and faithful member of Hillsdale County Medical Society, returning late to his home from his office, was stricken by apoplexy and rapidly passed into a deep coma from which he never revived, passing away on May 27 about 2:00 p. m.

Dr. Robson was born at Belleville, Mich., January 11, 1874, and was therefore aged 55 years, 4 months and 16 days. He received his pre-medical schooling at the High School of Belleville after which he was graduated from the Detroit College of Medicine in 1897 followed by a post-graduate course at the Chicago Medical College. After this, he came to Reading, Mich., and opened an office for practice. He soon became widely known as a skillful and conscientious physician. Ever genial, modest and unassuming, he was indeed the "beloved physician" to a vast number of patients and friends, both within and outside of the profession.

He was married June 21, 1910, to Miss Ella Green of Detroit, who with one brother, Edward Robson of Belleville and two nephews, survive him. He belonged to the Blue Lodge and O. E. S. in Reading, K. T. of Hillsdale, Reading Lodge 287 I. O. O. F. and Elks Lodge of Coldwater.

He was a splendid example of the "family physician" whose rapidly thinning ranks are giving grave concern to the medical profession and the discerning public. Being a faithful member of his County Society, he was also a member of the Michigan State Medical Society and a Fellow of the American Medical Association.

D. W. Fenton, Secretary,
Hillsdale County Medical Society.

The following resolution was passed by this County Society:

"That we, the members of the Hillsdale County Medical Society, wish to tender to the family and relatives of Dr. F. R. Robson our deep sympathy

in their bereavement, which is ours also, and that of the community of which he was a part, and that this resolution be placed upon the records of the Society."

By Committee,

W. H. Sawyer,
D. W. Fenton.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. G. L. LeFevre of Muskegon, is in Europe and will return about September 1st.

Dr. Eugene S. Browning, Grand Rapids, is spending six weeks at the University Hospital at Ann Arbor in post-graduate work in dermatology and radiology.

On Friday, June 14, 1929, the staff of the Highland Park General Hospital honored their resident physician, Dr. N. Elton, with a subscription dinner. Dr. Elton has distinguished himself in the previous year by doing clinical research work on the Icterus Index in Lobar Pneumonia. In response to the toastmaster, Dr. Elton stated that he was inspired toward doing this work by the fact that pneumococci are bile soluble. He stated that there is a definite clinical significance proportionate to the bile index.

The executive council of the American Association for the Study of Goiter has instructed me to inform you that a prize of three hundred dollars (\$300.00) and a medal of honor will be awarded by the association to the author of the best essay based upon original research work on any phase of goiter, presented at their annual meeting at Seattle, Washington, in September, 1930.

Composing manuscripts must be in the hands of the Corresponding Secretary by July 4, 1930, so that the award committee will have sufficient time to thoroughly examine all data before making the award.

Full particulars of other regulations governing details of the offer will be furnished on application.

If you will kindly give the contents of this letter full publicity especially among those interested in research work, we will greatly appreciate it.

The American Association for the Study of Goiter hopes this offer will stimulate valuable research work on the many phases of goiter, especially on its basic cause.

TRAUMATIC RUPTURE OF BLADDER WITH PERIVESICAL EXTRAVASATION

W. Calhoun Stirling and Norvell Belt, Washington, D. C., report on seven cases. Hematuria, disturbance of urination, pain and a tumor mass in the suprapubic area constitute the usual picture of rupture of the bladder. Treatment consists of (1) supportive measures, including transfusion if needed, salt solution under the skin, opiates for relief of pain, and control of all bleeding, and (2) immediate suprapubic cystostomy, together with counterperineal drainage if needed.—*Journal A. M. A.*

— JACKSON —

A City of Diversified Industries in Southern Michigan. “The World Takes What Jackson Makes”

Almost 100 years ago Horace Blackman, Captain Alex Laverty and an Indian guide, Pe-wy-tum, left Ann Arbor, and traveling two days through woods and marsh, came to where several Indian trails crossed the Washtenong Sepe (Grand River). After finding the river they made their camp for the night of July 3, 1829. At sunrise the following morning salutes were fired celebrating Independence Day and the founding of the present city of Jackson. Indians from nearby camps came to join them.

EARLY HISTORY

Horace Blackman then staked his claim, built the body of a log cabin, and that fall returned to New York State for the rest of the Blackman family and some friends. On May 27, 1830, they began to arrive, and other families came during the summer and built cabins and shacks, numbering 13 in all. This was the first year of the settlement.

RE-CHRISTENED

The village was named Jacksonburgh, for President Jackson, on January 16, 1830. In 1837 the name was changed to Jackson, and the place was incorporated February 14, 1854. Jackson has always been the judicial seat of Jackson County.

WISELY SELECTED SITE

It is evident that Mr. Blackman made considerable study in selecting the site for the city, placing it as nearly as possible in the center of the block of 20 townships. Horace Blackman is to be congratulated on his selection of this spot for the city of Jackson. For he chose a most advantageous place for a city to be built, which will always have a future, where railroads serving the community provide direct transportation routes connecting the other large cities with Jackson.

STRATEGIC LOCATION

Jackson's location is one of great advantage and importance. The city is in the heart of southern Michigan's rich agricultural lands. With Detroit 76 miles to the east, Toledo 71 miles to the southeast, Cincinnati 244 miles south, and Chicago

208 miles west, Jackson could not be more favorably situated than it is. The city covers an area of nine square miles.

TOPOGRAPHY

The topography of Jackson is also to be considered. The hills which border the valley of the Grand River provide beautiful and healthful home sites for Jackson's population, while the river flowing through the city provides adequate drainage. The city is 950 feet above sea level. With 120 lakes in Jackson County this section of Michigan is fast becoming the summer playground of America. Average temperature is 47 degrees. The average summer temperature is 74.1 degrees.

POPULATION

The population of Jackson at the opening of 1927 was 67,014, exclusive of suburbs, showing that Jackson's increase in population has been as rapid as that of the average American city. Estimated 1929, Metropolitan Jackson 75,605.

GOVERNMENT

Jackson was one of the first cities in Michigan to adopt the commission-manager form of government, and 1928 is its thirteenth year under that form. A mayor and four commissioners, through a city manager, direct the city's affairs, aided by 12 department heads and a large force of clerks and assistants.



Consumers Power Co.



Central State Bank Building

VALUATION AND TAXES

Property valuation, 1928, \$86,384,569. Summer tax rate \$9.86. \$72,418,270 represents real property and \$13,966,099 personal property. The city budget summary for year 1928: General funds requirements \$938,457.81; estimated revenue, \$87,175.00; tax raised, \$851,282.81. Winter tax (1928-1929) is \$19.56 per thousand, divided as follows: State tax, \$2.955; county, \$3.858; schools \$9.422; county roads \$2.004; county interest and sinking fund \$1.321. The city charges a 1 per cent collection fee, which will make the total tax



Booth Publishing Co.

\$19.76 per thousand. Tax assessed against city property, \$1,689,088.76. The city pays approximately 71¼ per cent of the total county tax.

GROWTH OF CITY

Population more than doubles in 20 years and expands in every line. Comparative figures compiled by the Chamber of Commerce for the years ending January 1, 1929, are as follows:

	1908	1929
Population	30,000	63,700
Assessed Valuation	\$16,046,465	\$86,384,569
Miles Paved Streets.....	6.12	60.43
Miles Sewers	37.1	128.02
Men in Police Department	23	57
Fire Department	39	70
School Buildings	17	25
Pupils in Schools	4,271	13,400
Miles Water Main.....	75	132.54
Telephones	6,000	12,528
Manufacturing Industries	80	140
Est. Val. Products.....	\$13,981,121	.....
Annual Wages, Est.	\$ 2,400,000	.....



Jackson City Bank and Trust Co.

United States Department of Commerce figures for Jackson for year 1927 are: Persons employed in gainful occupations, 32,758, of which 26,010 were males and 6,748 females. Value of products, 1927, estimated \$60,930,674. Wages, 1927, industrial, estimated \$12,466,287. In 1908 there were 1,100 telephones and 1929: 12,528 (Michigan Bell Telephone has \$2,450,000 invested in Jackson).



Elks Temple
(General Headquarters for Michigan State Medical Meeting)

EDUCATION

Public school property in Union School District is valued at \$4,783,000. Jackson has 20 public schools, valued at \$4,783,000, including land buildings and equipments; four Catholic parochial schools; one Seventh Day Adventist parochial school and one business college. Jackson Junior College was opened in September of 1928, with 154 students.

Regular public schools enrollment year 1927-1928: High, 1,368, intermediate, 2,232; elementary, 5,543; kindergarten, 1,108; part time, 210; vocational, 8; total, 10,468. At the beginning of the school year 1928-1929, the enrollment increased 718 from the year before, including students in the Junior College. Evening schools, 1928-1929, enrolled 1,763; summer schools in 1928, net enrollment 496; summer playgrounds average attendance in 1928 was 1,333. Catholic parochial school enrollment fall of 1928: St. Mary's, 765; St. John's, 745; St. Joseph's, 287; St. Stanislaus, 679; total, 2,476.

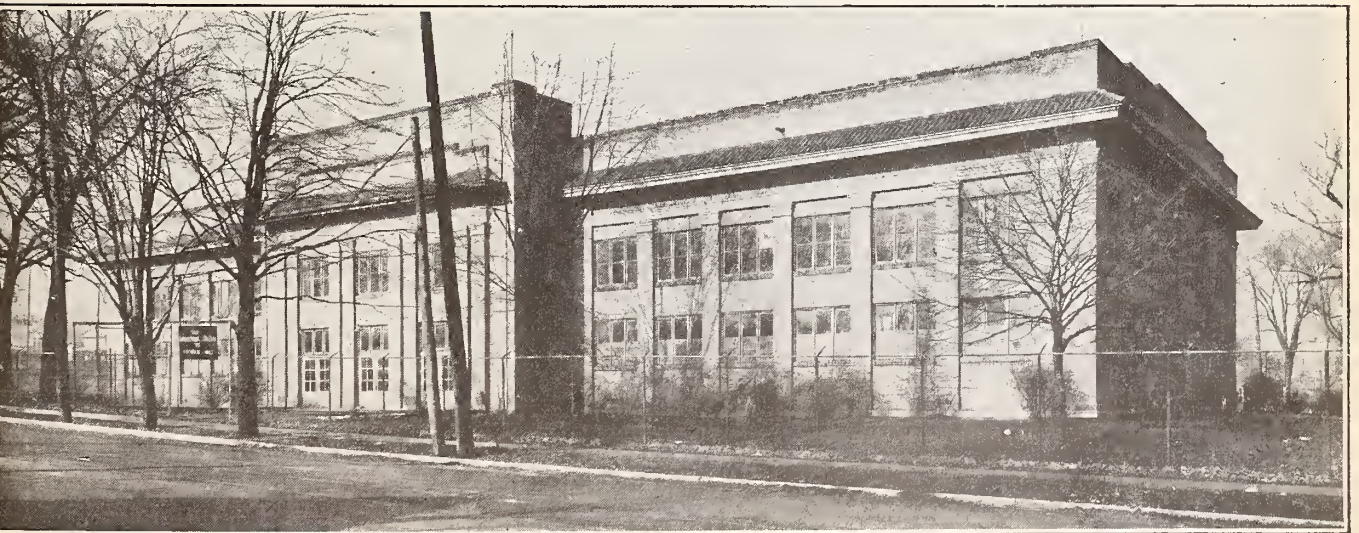
School tax for 1928 was \$8.96 per thousand. Amount raised, \$786,273; primary money, \$169,235.

Professional employes of public schools: Supervisors and special, 25; principals, 19; high school and junior college teachers, 63; intermediate, 68; vocational school teachers, 21; elementary, 133; kindergarten, 14; total at beginning of year 1928-1929, 343; previous year, 321. Of this number, 22 have taught in Jackson 25 years or over; 16 here 20 to 24 years, 22 here 15 to 19 years; 27 here 10 to 14 years; 74 here 5 to 9 years. Salaries range from \$1,200 upward, 26 receiving \$2,500 or over. Public school libraries contain 38,595 volumes, valued at \$19,300.

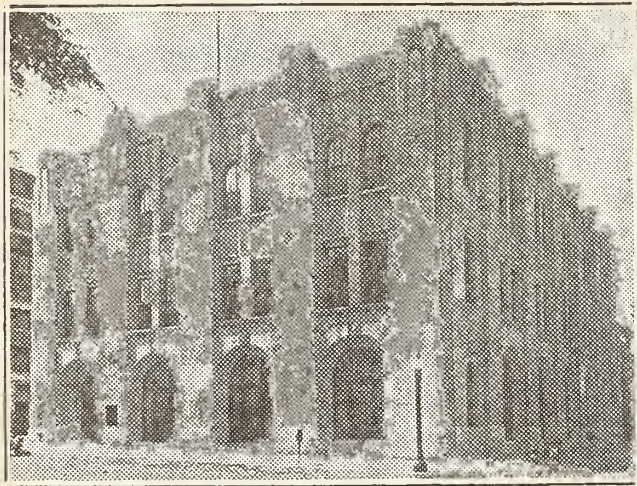
Jackson's school savings system leads all other schools in the state in the average gross deposit per pupil. Ninety per cent of the pupils participate or 7,969, average number depositing each week, 4,927; deposits, \$95,642.27; interest credited, \$8,401.42; net savings, \$26,714.28; bank balance as of June 20, 1928, \$212,510.97; average gross deposit per depositor, \$12; average net deposit per depositor, \$3.35.

SOCIAL AND CIVIC

The general atmosphere of sociability that pervades all homes and business places is an item of which Jackson can boast. Heading the list of social and civic organizations is the Chamber of Commerce, with nearly 1,000 active members, a live organization that is known for its courtesy in entertaining those who look upon Jackson as a possible location for a new industry, and for its readiness to lend aid in any movement for civic betterment. The city also has six luncheon clubs, all being interested in the city's welfare. The City Club of Jackson numbers 700 members, and its home has one of the finest buildings of its kind in the state, valued at \$150,000. The Y. M. C. A. and Y. W. C. A. have fine buildings, and each carries out an interesting social, educational and health-building



Municipal Auditorium

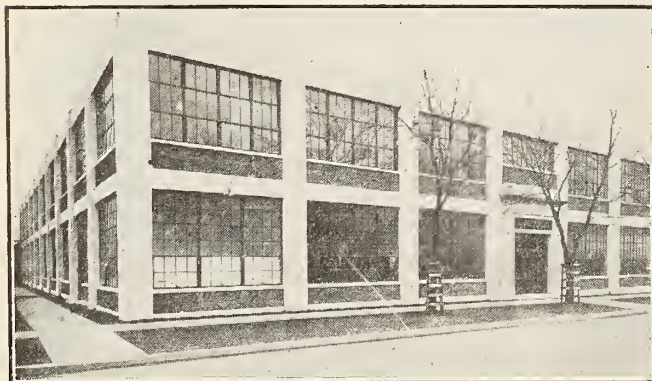


Bell Telephone Co.

program for the young people. Thirteen charitable and benevolent associations are engaged in social welfare and relief work among the needy of the city.

INDUSTRIAL

The diversified industries of Jackson are largely responsible for a certain stability not found in many cities in the automobile manufacturing district. Some of the leading manufacturers of Jackson are: Sparks-Withington Company, manufacturers of radios, automobile horns—employing over 4,500 people; the Michigan Central Railroad shops—employing over 2,300; Jaxon Steel Products, manufacturing of wheels, rims and General Motors stampings—employing over 2,000 people; the American Gear & Mfg. Company—employing over 250, subsidiary of Hupmobile; Frost Gear and Forge company—employing over 800; the Kelsey-Hayes Wheel Company, one of the largest wheel companies in the world—employing over 750; Jackson Motor Shaft, manufacturers of cam and motor shafts—employ-



Reynolds Spring Co.

ing over 700; Michigan Seating Company, manufacturers of furniture and Kaltex—employing over 250; I. M. Dach Company, garment manufacturers—employing over 248; S. H. Camp Co., manufacturing surgical appliances—employing over 150; Reynolds Spring Company, manufacturers of automobile spring cushions, furniture strips and Reynolite Products—employing over 700 people.

A partial list of the products manufactured in Jackson gives some idea of the diversity of our industries:

Awnings	Furnaces
Boilers	Pickles
Bed springs	Paints
Binder twine	Rolling chair wheels
Brick	Refrigerators
Belt	Saw motors
Bicycle	Sewer pipe
Wheels	Screw products
Canned goods	Seeds
Charcoal	Tooth paste
Corsets	Tin products
Concrete block machinery	Burial vaults
Coil springs	Wire specialties
Paper bags	Farm implements
Patterns	Felt products



Public Library

Perfumes	Auto horns
Plated goods	Furniture
Patent medicines	Greases
Rotary sieves	Gas engines
Show cases	Art glass
Sheet metal products	Gas lighting plants
Skirts	Interior finished
Tents	Lathes
Tools	Leather goods
Vinegar	Monuments
Wire fences	Medicine cabinets
Candy	Motor cycle wheels
Concrete mixers	Marine motors
Cushion springs	Mill supplies
Castings	Machine tools
Chemicals	Oils
Cement	Oil heaters
Drills	Potato machinery
Drugs	Signs
Dust collectors	Shoes
Dresses	Toilet articles
Extracts	Underwear
Floor lamps	Water heaters
Flour machinery	Window display fixtures
	waists

JACKSON LISTED AS EIGHTH INDUSTRIAL CITY

Jackson ranked eighth industrial city of the state with an employment total of 12,555 for 527 firms. Men workers

numbered 9,671, while female help totaled 2,884. The average daily payroll was \$65,195, of which the men received an average per diem of \$5.74 and the women, \$3.36. Office employees numbered 1,200, while manual workers, of whom 2,257 were women, totaled 11,355. The average daily wage of manual workers was \$5.14.

Stores numbering 292, reported 1,475 persons at work, with 791 men receiving an average wage per day of \$5.41



American Gear Division of Hupp Motors



Hotel Hayes

and 684 women receiving \$2.89. Forty-four hotels and restaurants employed 335 at an average daily wage of \$3.60. One hundred ninety-one factories employed 10,745, of whom 8,732 were male and 2,013 were female workers. The former received an average daily wage of \$5.80 and the latter \$3.53. Factory workers were divided into 1,027 office and 9,718 manual workers.

MERCY HOSPITAL

JACKSON, MICHIGAN

Jackson Mercy Hospital, un-

der the direction of the Sisters of Mercy, is in the 15th year of its existence. Its humble beginning in what is now known as the Blackstone Hotel coincides with a general awakening in our city and country to a better knowledge of hospital service, and to a want of greater protection of life and health.

National hospital organizations, still in the embryonic stage, were soon after to make their influence felt at home and abroad. The American Hospital Association was in a period of healthy growth, but the American College of Surgeons had not yet published the hospital minimum standard. The American Medical Association had not yet exacted in the curriculum a fifth year which now brings the student in helpful contact with the profession in active hospital practice. True, a J. B. Murphy was then conducting his incomparable clinic at Mercy in Chi-



Hotel Otsego



Peoples National Bank

cago, and at St. Mary's of Rochester, the Mayo Brothers were climbing the ladder of fame to the great benefit of patients.

Governor Blair's homestead, of Civil War fame.

After one year of hospital administra-

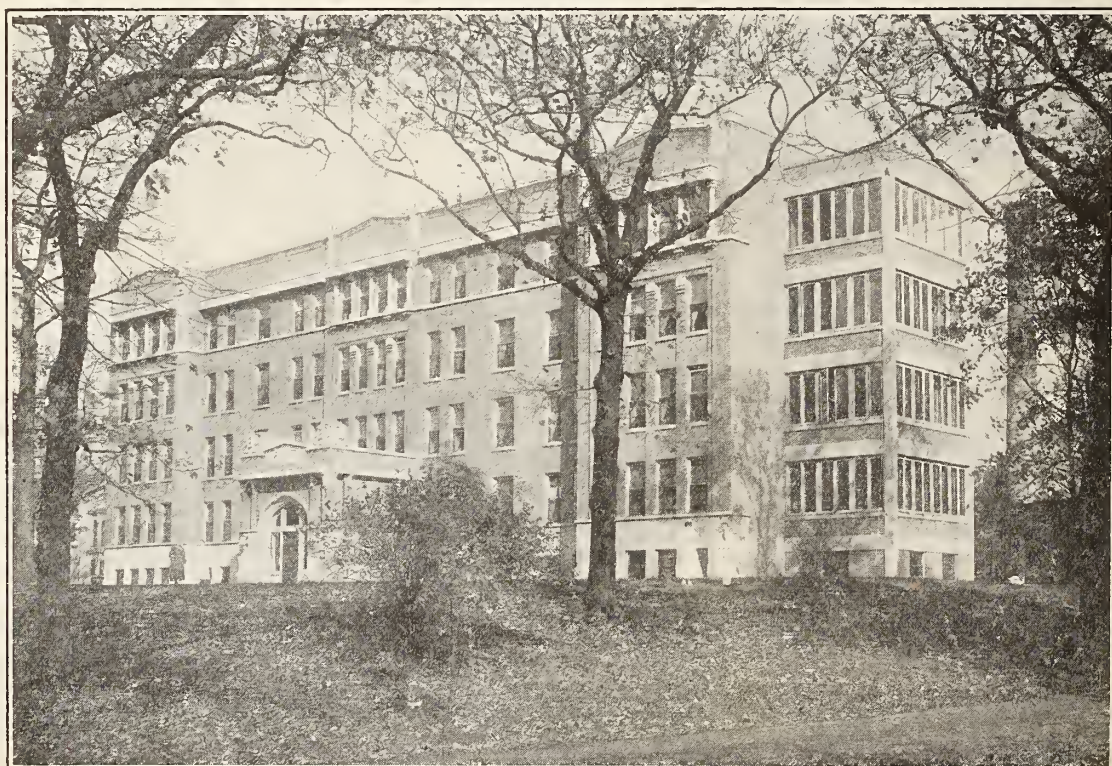
Hospitals are not a creation, they are a development. Mercy Hospital is no exception. It is still growing in the midst of an intelligent public, willing to acknowledge the efficiency that comes only from sacrifice where human suffering is to be alleviated.

At the opening of Mercy Hospital in February, 1915, the ward rates were \$10.00 a week, the maximum charge for private rooms was \$25.00 per week. An attempt was made to establish obstetrical, medical and surgical departments with a capacity of 28 beds.

However, the equipment was by no means all the Sisters of Mercy desired. The plans for better and greater facilities crystalized in a step for the erection of a new building.

SITE CHOSEN IN 1913

As far back as 1913, through the far-seeing mind of Rev. E. M. Cullinane and the assistance of loyal friends, a site had been purchased on Lansing Avenue for that purpose; the very site of



W. A. Foote Memorial Hospital

tion in the renovated Devlin's College, popular consciousness of the Sister's designs was manifested by donations of about \$32,000 to help carry these designs into execution.

NURSES' HOME SECURED IN 1916

In 1916, the Townley property was purchased adjoining the Blair estate and the Townley mansion used for nurses' home. Up to this time the student nurses had

been quartered at the rented Weatherwax home, corner of Blackstone and Cortland streets.

LAYING OF CORNERSTONE IN 1917

September 23, 1917, the cornerstone of the new Mercy Hospital was laid. Rev. E. D. Kelly, D. D., officiated, assisted by Rev. Jos. Herr, LL.D., Rev. E. M. Cullinane, Rev. John G. Wall, and a number of dignitaries of church and state.

Addressing the multitude assembled on the ground, Rt. Rev. Bishop Kelly reviewed the history of hospitals in the new world, congratulated the city of Jackson on the establishment of the institution, declaring that Mercy Hospital is not a dividend making institution but one to care for the needs of the sick and afflicted and, adding in a prophetic tone: From the patronage of the present hospital, its success is insured.

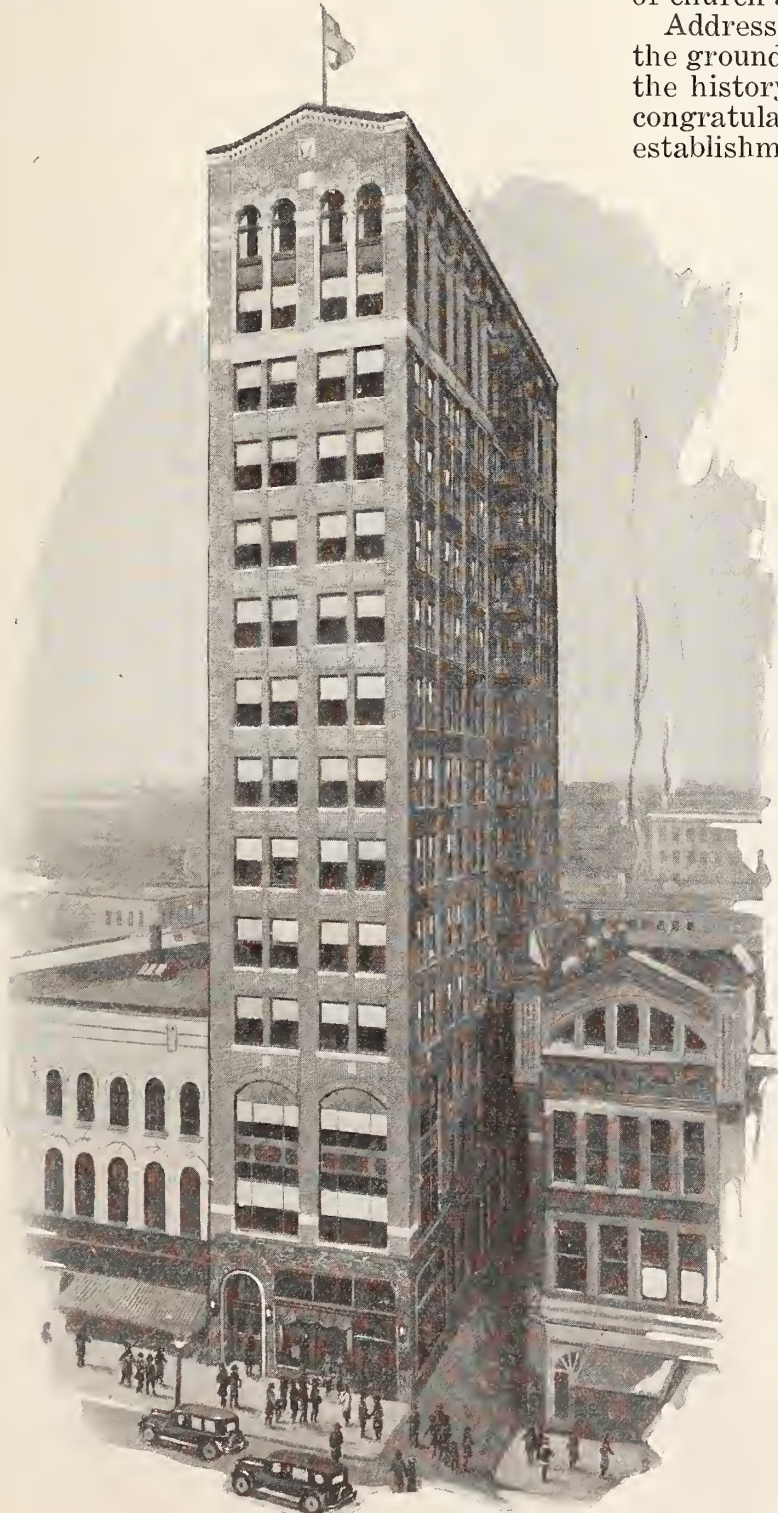
Patronage has indeed gradually increased so that, on this date, the need of completing the long proposed addition is imperative.

NEW UNIT DEDICATED DECEMBER 17, 1918

The crucial period of the world war delayed the work of the original structure. It was not until December 17, 1918 that the first unit was dedicated by the Bishop of Detroit, Rt. Rev. James J. Gallagher, D. D.

This unit of construction has a capacity of 75 beds, comprises four stories above the ground floor or basement, and occupies 105 feet at its front elevation, while two wings separated by a paved court extend to the rear for 121 feet with respective breadths of 45 and 30 feet. The plans provided for an additional wing of the same length.

An elevator of the automatic type has been installed close to the ambulance entrance at the rear. At the left of the elevator is the electric dumb-waiter to convey the food from the diet kitchen to the tray rooms. At the right of the elevator on the patients' floors, are the chart rooms, linen and supply rooms, utility



Reynolds Building

rooms, clothes chute, and within easy access, flower rooms facing the open court.

The present appointment will be somewhat modified when the additional wing is completed.

The ground floor is now devoted to separate dining rooms for sisters, graduate nurses, student nurses, maids, and male help. The north wing contains the nurses' lecture hall, the laboratory, the drug room and X-ray department.

The central wing contains the main kitchen and adjoining dietetic laboratory with adequate equipment.

The front entrance leads directly to the chapel which is of Gothic architecture with stained glass windows and arched ceiling.

To the left of the entrance are the sisters' quarters. To the right, are the reception room, office, record and doctors' rooms, resident chaplain's suite, and private rooms in the wing ending with the solarium. Bathrooms and lavatories are interspersed throughout the hospital, some bathrooms and lavatories being so placed as to serve two rooms.

The maternity department occupies the second floor. A sterilizing battery adjoins the delivery room. The creche is equipped with two rows of cribs and a Hess incubator. Attention has been given to render the rooms attractive in selecting a variety

of pleasing shades in sanitary furniture harmonizing with the tinted walls.

The third floor is assigned to the surgical patients, divided into private rooms and one four-bed ward. The operation rooms are separated from the main corridor by a distinct hall-way which leads to the doctors' consultation room, the nurses' work room, the doctors' dressing room, the sterilizing and operating suites, doctors' and nurses' scrub rooms. The lights are of the Bartlett No-Shadow type.

The signal lights in the wards and private rooms summon the nurse by simultaneously flashing a call at the nurses' station and in the main office.

An indirect lighting system is used throughout the hospital, it being possible to turn on a bright light or a night light of softer rays from the same switch. Each room is also equipped with a socket for a drop light and with cord socket used in signaling nurses.

The power plant in the rear is equipped with two 80 horse-power return tubular boilers, 14 feet by 60 inches, with provision for a third. Hawley down draft furnaces are provided.

The direct steam heating system takes care of all heat losses and maintains satisfactory temperatures in all rooms, dependent upon the uses to which they are put,



Mercy Hospital, Second Wing Complete

entirely independent of the ventilating system. Louvres at the bottom of the doors admit fresh air while the impure air is drawn out through ventilators near the ceiling.

An electric vacuum cleaner is connected to each floor by two-inch risers.

A hot water tank of 250 gallons capacity gives the needed supply from the boiler room.

The power laundry is fully equipped with modern appliances. It has lately been installed in a separate building which provides adequate capacity for future needs, and contains a Permutit Water Softening Plant.

Thought of the future has also been shown in doubling the capacity of the nurses' lodge in 1926.

So far is the description of the present physical plant at the disposal of Mercy Hospital authorities for the care of the patient.

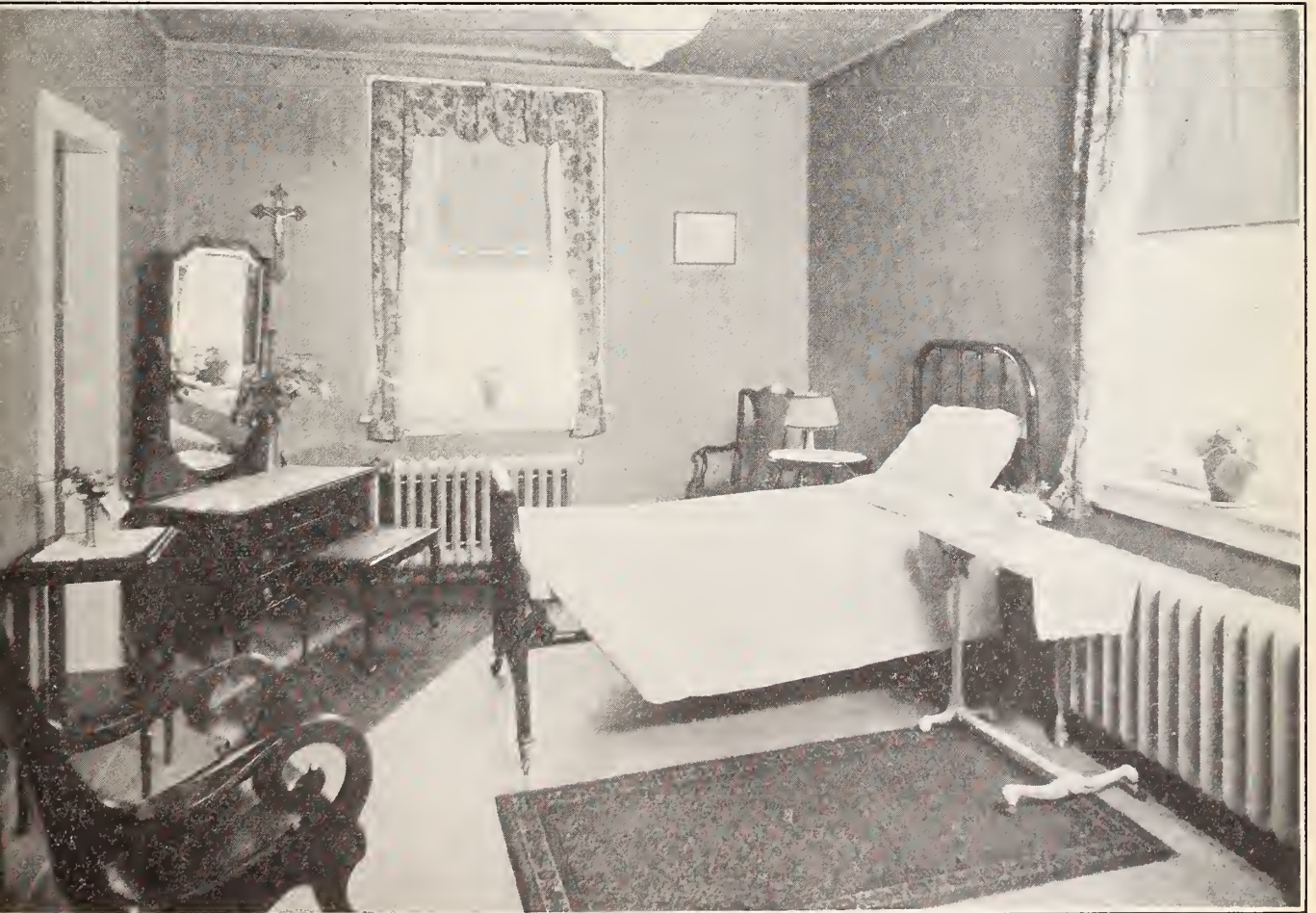
One might speak of the beauty of the surrounding grounds, of the majestic oaks and of wide-embracing elms gracing the verdant slope, of a new inviting dreveway,

the delight of autoists, but enough has been said of the exterior: 'tis but the shell of the hospital.

FOR GOD AND HUMANITY

Vastly more important is the spirit within, viz.: the soul of the hospital. "For God and Humanity" is the inspiring motto which directs the personnel to works of mercy for the suffering, and incites all to make of Mercy Hospital a real "Home" for the sick.

This spirit of devotion has been nobly shared by the medical staff. A complete reorganization of the staff was made in 1921, with Dr. C. D. Munro as first chief. The executive committee of said staff was made to consist of the chief, vice-chief, secretary and of the chiefs of the following units, viz.: General surgery, medicine, obstetrics, eye, ear, nose and throat, pediatrics, dental surgery, roentgenology and anesthesia. The chief of clinical laboratory was later made a member of the executive committee. Monthly instructive staff meetings are regularly held to review the clinical hospital work.



A Private Room

A HOLE-IN-ONE

To further the benefit of these valuable meetings, staffs from neighboring cities, particularly St. Joseph Mercy's of Ann Arbor and St. Lawrence Hospital's of Lansing have responded to the invitation of holding joint meetings. These joint meetings have resulted in closer friendship between leading physicians of the vicinity, who have learned to appreciate more and more, not only the value of efficient service to patients but also, in a minor degree, the unusual skill of Jackson physicians on the golf course.

Golf tournaments have become a yearly performance of Jackson Mercy and Lansing St. Lawrence hospital staffs. Dr. C. D. Munro has the distinction of making the first hole-in-one ever registered at the Jackson Country Club. The press has on record that on the 17th hole, 169 yards in length, Dr. Munro scored his "ace".

Mercy Hospital Staff has on its rostrum 38 staff members who have proved themselves loyal to Mercy Hospital.

MEDICAL LIBRARY

An extensive and growing medical library is a feature of the educational department of Mercy Hospital. The State Board of Registration of Medicine gives its approval to the service offered to internes. To date, only students of Class A medical schools have been accepted.

SCHOOL OF NURSING

Up to January 1, 1929, Mercy Hospital School of Nursing has graduated 61 nurses. The growth and success of the work have been fostered in no small degree by the active and sympathetic interest of the members of the hospital staff who have generously given time and encouragement.

The first patient referred to Mercy Hospital was admitted February 20, 1915. It is estimated that the number of registered patients will be very close to 30,000 by February 20, 1930.

Eighteen thousand, five hundred and ninety-eight days' active services were rendered in 1928, for a total of 3,147 patients.

MERCY HOSPITAL AUXILIARY

Mercy Hospital has welcomed the sym-



A Cozy Corner, Second Floor

pathy and intelligent help of Mercy Hospital Auxiliary, an association of Jackson ladies formed to assist the management in dispensing aid to the sick in need. These devoted ladies, together with an Advisory Board of prominent business men, have helped to create a closer contact between the hospital and the public, and, bringing relief in financial burdens, enabled the institution to do a greater amount of charity.

Inscriptions throughout the hospital bear testimony to the generosity of many loyal friends who are an incentive to carry on a work of benevolence in Jackson, and assist the physicians in the great art and science of healing.

HONOR TO THE PHYSICIAN

To the physician, honor is constantly referred. In the adornment of the Staff Room, opposite the Award of the American College of Surgeons, is seen an illuminated quotation of the Bible, verses 1, 2, 3, 4, 7, 9, 11, and 12 of Chapter 38, thus worded:

"1. Honor the physician for the need thou hast of him; for the Most High hath created him.

"2. For all healing is from God, and he shall receive gifts of the king.

"3. The skill of the physician shall lift up his head, and in the sight of great men he shall be praised.

"4. The Most High hath created medicines out of the earth, and a wise man will not abhor them.

"7. By these he shall cure and shall allay their pains, and of these the apothecary shall make sweet confections, and shall make up ointments of health, and of his works there shall be no end.

"9. My son, in thy sickness neglect not thyself, but pray the Lord, and He shall heal thee.

"11. Give a sweet savor, and a memorial of fine flour, and make a fat offering, and then give place to the physician.

"12. For the Lord created him; and let him not depart from thee, for his works are necessary."

STAFF OF W. A. FOOTE HOSPITAL FOR 1929

Surgery—

Dr. H. A. Brown.
Dr. E. S. Peterson
Dr. J. E. Ludwick
Dr. W. L. Finton
Dr. Geo. Pray
Dr. Don Kudner
Dr. H. L. Hurley
Dr. C. C. Hicks
Dr. Philip Riley
Dr. M. N. Stewart
Dr. Corwin Clarke
Dr. W. Townsend

Medicine—

Dr. E. F. Lewis
Dr. C. Corley
Dr. W. H. Enders
Dr. F. C. Ransom
Dr. G. R. Bullen
Dr. E. G. Wilson
Dr. L. F. Thalner
Dr. L. L. Stewart
Dr. E. A. Thayer
Dr. A. M. Shaeffer
Dr. R. H. Alter

Eye, Ear, Nose and Throat—

Dr. Cochran
Dr. E. O. Leahy
Dr. Hardie

Dr. Newton
Dr. John Smith
Dr. McGarvey

Obstetrics—

Dr. J. B. Meads
Dr. C. A. Leonard
Dr. W. H. Lake
Dr. F. F. Pray
Dr. F. Cox

Pediatrics—

Dr. Dengler
G. U. & V. D.
Dr. Frank VanSchoick
Dr. M. J. McLaughlin

Dermatology—

Dr. H. W. Porter

Radiology—

Dr. J. C. Kugler

Consultants—

Dr. C. D. Munro
Dr. G. A. Seybold
Dr. F. W. Rogers
Dr. J. A. Roberts

HISTORY OF HOSPITAL

In the year 1886, a number of influential men of this city bought an old residence. This was deeded to the city to be used as a hospital. Being property of the city it was not incorporated.

After a few repairs the building was opened as a City Hospital with a Miss Edricks as superintendent until 1888, at which time Miss Flora A. Stickle took charge. Miss Stickle trained in Battle Creek, but was not a graduate. A change was made in 1899 when Miss Mimill West, a graduate of Grace Hospital, Detroit, Michigan, came to act as superintendent, continuing until 1901.

It was at this time that the Jackson Hospital Training School was started with two students enrolled through the influence of Dr. D. E. Robinson.

In 1901 Miss Margaret Moore and Miss Mary Hodson, graduates of St. Mary's Hospital, Detroit, Michigan, took charge. Miss Moore, as superintendent, remained for 13 years, and Miss Hodson, as night supervisor, remained for two years.

In 1903 the length of training was changed to three years, and the Training School was incorporated August 18, 1906. At this time the hospital was remodeled to a fifty-bed capacity due to increase in patients.

In the year 1915, Mrs. W. A. Foote saw the crowded condition of the hospital and deeded a piece of land to the city with the purpose of building a modern, well-equipped hospital to be known as the W. A. Foote Memorial Hospital, in memory of her husband. This was completed and opened early in 1918 with the Jackson Hospital Training School transferred to the new institution. The old building was then used and known as the City Contagious Hospital.

W. A. Foote Memorial Hospital continues as the City Hospital with an increase of patients each year. In 1926 all the floors

were completed and in use. Modern equipment and everything for the patient's comfort and treatment were installed, due to the influence of the present superintendent, Miss Margaret Spiers.

WORK TO BE STARTED SOON ON NEW JACKSON SANATORIUM

Jackson county's proposed sanatorium will be a reality before long if the progress that has been made within the past few months in laying plans for the institution is continued. Approval was given recently by the special building committee of the Jackson County Board of Supervisors to the drawing of the sanatorium submitted by consulting architect T. B. Kidner.

Embodying the latest principles of sanatorium construction, the building is expected to rank as one of the finest of its type in the United States. The high quality of the plans for the new structure is attributed largely to the extensive investigations into the problems of sanatorium building made by the Board of Supervisors.

At the behest of the Michigan Tuberculosis Association and the State Department of Health, three of the county supervisors, J. F. Thompson, W. J. Antcliff, and F. E. Town, made a trip to Ironwood to attend the mid-year Sanatorium Conference held there on July 30 and 31. They visited in the course of the trip a number of sanatoria, both in Michigan and Wisconsin, receiving valuable first hand information on the patient facilities, cost of building and upkeep, and administration. The Board of Supervisors made certain that the building would be planned in accordance with the accepted standard by engaging the services of Mr. Kidner, a specialist in sanatorium architecture.

The sanatorium will contain accommodations for 54 patients, according to the plans accepted by the building committee. The third floor will be reserved for advanced cases. Eight single and six two-bed rooms, each having individual lavatories, are planned for this floor.

Semi-ambulant and ambulant patients will be placed on the second floor, where the specifications call for four four-bed wards and six two-bed rooms. Screens will be used to divide the wards into two divisions of two beds each, giving more privacy to the patients. Sitting rooms, porches, and open terraces will be provided for the patients on this floor.

With the exception of two three-bed wards for children the first floor will be given over to administrative offices. Two dining rooms, one for patients and one for nurses, a nurses' rest room, and the out-patient department will be situated on the ground floor.

The basement floor will contain a room for recreation and occupational therapy, in addition to the heating plant, kitchen, employes' dining room, and store rooms.

The question of whether or not Jackson County was to have a new sanatorium hinged on the disposition that could be made of \$71,000 voted in 1918 for a contagious hospital which subsequently was never built. The need for a tuberculosis sanatorium became ever more urgent, and when the legislature passed the act declaring tuberculosis to be a communicable disease, the Board of Supervisors, according to City Health Officer F. R. Town, voted to use the funds for a sanatorium. The state attorney general ruled that such use of

the money would be legal. The last obstacle to the construction of the sanatorium was removed when the voters of the county supported the measure at the September, 1928, elections.

THE EARLY PHYSICIANS AND THE MEDICAL SOCIETIES OF JACKSON COUNTY

FREDERICK W. ROGERS, M. D.

(Chicago Medical College 1886)

In our search for information on the early physicians of Jackson County, we find that the day historian frequently informs us what states they came from, but never says anything about what school they graduated from, or studied in, or whether they had any real medical training at all. As there was not until comparatively recent years any medical practice law in Michigan, a large share of the earliest physicians of the community, and several of the later ones, had no training better than taking care of some physician's horse, or working more or less in a drug store with a little desultory reading. It would be of interest to us if in speaking of these pioneers we could know what training they had.

The first families to locate in Jackson came in the spring of 1830, others came later and the village took on village ways, the farming country was rapidly settled, and other villages were soon on the map. The nearest and most advanced post of civilization was Ann Arbor, then a village of perhaps two hundred and fifty inhabitants, among whom according to a writer of that time were an undue proportion of lawyers, doctors and land agents. In September the wife of E. B. Chapman, one of the earliest group of settlers, was to be confined. For the accouchment Mr. Chapman secured Dr. Samson Stoddard, one of the super-numeraries at Ann Arbor. She was delivered of a daughter, the first white child born in Jackson county. Dr. Stoddard concluded to make Jackson his permanent home thus becoming the first physician to locate here. He was successful and popular, becoming a man of means. In 1840 he purchased and removed to a large farm near Concord in this county where he resided a number of years, later removing to Albion where he died.

In 1831 Dr. Oliver Russ came here from Vermont. Many legends have survived describing his bluff, robust personality. For a considerable time he made his calls afoot, and it is related that in 1832 upon hearing that cholera was epidemic at Marshall, he walked all the way there. He remained several days attending the victims and

after returning home walked back to Marshall, at other times staying various periods of time and doing what he could for the sick.

George W. Gorham was the next physician to arrive, coming in 1833. Records show that he was a much respected and successful practitioner, dying here in 1860. Ira Backus arrived in 1837, becoming a partner of Dr. Gorham, and practiced many years.

George W. Smith began practice here in 1836 but died soon after when, it is written, his prospects were very bright. By this time there were other physicians in some of the settlements of the county but the information is too meager and too difficult to obtain except for very enthusiastic historians. We find a Dr. J. A. Pratt locating at Spring Arbor in 1835, removing to some other field in 1844.

Dr. Edward Lewis, a fine scholarly gentleman, came from Vermont in 1835, locating on a farm near Concord, later taking up a medical practice at Concord village. He removed to Jackson as a much respected practitioner in 1843. His son, Dr. C. H. Lewis, a highly educated gentleman, practiced for some years in Chicago then came back to Jackson where, except for a brief time on the Pacific coast, he practiced until his death not many years ago.

About 1840 Dr. Bingham was practicing at Grass Lake and in 1833 Dr. J. G. Cornell purchased a farm at Spring Arbor. He practiced medicine for many years becoming the first president of the first Jackson County Medical Association.

Among the early physicians we find the names of two men who later obtained fame in other localities. Dr. John McLean began practice here in 1837. It is said that he ranked very high among his confreres and made a reputation that extended far from Jackson. When Rush Medical College was organized in Chicago he was invited to become a member of the first faculty, where he is said to have achieved great fame.

Another who attained great eminence among the medical men of Michigan was Abram Sager who located in Jackson in 1838, later becoming a member of the first faculty of the newly organized medical school at the University of Michigan. Dr. Peterson of the present faculty wrote some years ago a very interesting paper on his medical career. He successfully performed the earliest Caesarian Sections in Michigan while a member of the University of Michigan faculty.

Dr. J. A. Davis located in Jackson as a physician and a horse trader for an important transportation company. He gave up medical practice, removing to Albion in 1850.

Dr. David McClure located in Jackson in 1834. He operated a drug store, did office practice and frequently went in consultations with other physicians by whom it is written his opinion was held in much respect.

Dr. Charles L. Merriman located here about 1836 and practiced many years. Educated as a regular, he changed to homeopathic practice becoming probably the first of that persuasion in Jackson.

A well educated and energetic young man, Moses McNaughton, located in Jackson in 1840. He was a very capable practitioner and after a successful practice of several years, abandoned the practice of medicine to become a real estate dealer on a large scale. He died here at an advanced age. Dr. Joseph Tunnicliff, who became one of the leading surgeons of Jackson, began practice in 1840. In 1850 George W. Carhart located in Jackson and during the next twenty years was one of the leaders of the city. He died about the age of 45.

Dr. R. H. Davis, a graduate of the first class of the University of Michigan medical school, practiced here until disabled by the infirmities of age.

One of the most notable and talked of physicians in Jackson since the earliest days was Gordon Chittock. More stories and legends have survived him than any other medical man Jackson has known with the probable exception of Dr. Russ. Dr. Chittock practiced here from the early 50's until his retirement in the late 80's. He died at an advanced age many years after his retirement. There were a number of other physicians in practice here from 1850 up to the Civil War about whom not much is written.

Besides Doctors Chittock, Tunnicliff and Carhart appears the name of A. M. Crawford and a Dr. Turner, neither of whom were graduates but were practitioners for many years.

Probably one of the best known physicians in southern Michigan was Dr. J. D. North, a graduate of the late 50's. He practiced here many years. Dr. Cyrus Smith, also a graduate of the late 50's, practiced here until he died.

Dr. John Smith, a fine christian gentleman and a homeopathic practitioner, located here in the late 80's. He served in the Civil War as a captain of infantry.

After the war he resumed medical practice again and practiced in Jackson many years. Two of his sons have been honored members of the profession; Dr. Dean T. Smith, late professor of surgery at the Homeopathic Medical Department of the University of Michigan and Dr. John C. Smith, one of our highly successful eye, ear, nose and throat specialists and a past president of our County Society.

Many physicians of Jackson Souty served in the Civil War, several from the smaller villages of the country whose names are not readily available. Of those most readily ascertained appear the names of Joseph Tunncliff, surgeon to the first and fourth Michigan infantry, later brigade or active brigade surgeon; Cyrus Smith, A. M. Crawford and W. H. Palmer who enlisted as a hospital steward and was afterwards assistant surgeon; to R. H. Dans as contract surgeon; Gordon Chittock and others whose names do not come to memory on examining board for recruiting.

Dr. M. McLaughlin, who located in Jackson in the early 70's, has been assistant surgeon in a New York hospital. Dr. McLaughlin practiced in Jackson from the early 70's until the late 80's retiring with a competence. Dr. Miar McLaughlin now of this city is his son. Dr. A. E. Bulson survived through the Civil War as musician, enlisting as fifer before he was 14 years old. Dr. B. B. Anderson, father of Dr. W. B. Anderson of this city, served the ranks as a soldier and afterwards studied medicine and practiced successfully in Jackson until he retired from the infirmities of age.

From a study of available information the first County Medical Society was organized in 1843.

President, G. J. Cornell.

Vice President, Dr. Adams.

Secretary, John McLean.

After more or less a success the society died in a short time. In 1849 the society was revived and a new one formed, of which we find Moses McNaughton as president. This functioned several years. After the Civil War in 1866 the society was revived or newly organized—not clear which. Among other names our informants have forgotten, appear the names of G. W. Crawford, Gordon Chittock, A. M. Crawford and Cyrus Smith. A few years after the demise of this society, another was formed which had a short life, flickered and gave up the ghost. That a successful society in Jackson during those years was impossible is not strange. Medical ripping

up the back, slandering and depreciating the work of others were carried in those days to an extent and with a virulence incredible to the present generation of practitioners.

About 1888 or 1889 a county society called the Jackson Academy of Medicine was organized, functioned for a while, dwindled and died late in 1893 or early in 1894. There was no quarrelling in the society, the meetings were characterized by good feeling and good humor. One fact that worked for disaster was the apathy among several physicians who had the largest practice and were influential. They cordially approved the society idea but could not be drawn personally to a meeting with a caterpillar tread tractor. The only surviving members of this society in Jackson County are W. W. Lathrop and F. W. Rogers.

Early in January 1901, in response to a general call, several members of the profession in the city met at the office of Dr. A. E. Bulson to attempt to form a new society. Dr. Bulson acted as chairman and Dr. A. H. Wilton as secretary. Committees were appointed to effect a permanent organization. The meeting adjourned to meet again at the same place, January 24th. At this meeting on the 24th the society was formed with twenty-six charter members. The officers were:

President, A. E. Bulson.

Vice President, Mrs. Martha C. Strong.

Secretary, A. H. Wilton.

Treasurer, F. W. Rogers.

The next meeting was held February 14th, at which time it was decided to use Castle Hall, which is now the Majestic theater, for a permanent place for the next meeting which was to be held in April. This society has been supported loyally by the medical profession of Jackson County and is, we think, a strong, live society. Before the added strength given by the reorganization of the State Society, two factors made the society worth while. Several of the members who had the most lucrative practice set a fine example by invariably attending all the meetings, although for years the meetings were held in the afternoons and sometimes using the evenings and by leaving word at their homes and offices that they were not to be disturbed during the meetings. Another factor which is still perhaps even more pronounced by the policy of this society is the prominence of the social element. This adds interest to the meetings and gives the members opportunity to see what good

fellows the other men are when they meet them right. It is doubtful if there is another city where the relations of the doc-

tors with each other are more cordial or where there is less underhand trickery or back stabbing among them.

Official Program—109th Annual Meeting, Michigan State Medical Society—Jackson, Mich., Sept. 17-18-19, 1929

OFFICIAL CALL

The Michigan State Medical Society will convene in annual session, in Jackson, on September 17, 18, 19, 1929. The provisions of our Constitution and By-Laws and the official program will govern the business and transactions of this annual session.

Louis J. Hirschman, President.
R. C. Stone, Chairman of the Council.

Henry J. Pyle, Speaker.

Attest: F. C. Warnshuis, Secretary.

DAILY SCHEDULE

Headquarters: Elks Temple.

September 17th

10:30 A. M.—House of Delegates.

2:00 P. M.—House of Delegates.

7:30 P. M.—House of Delegates.

September 18th

9:15 A. M.—Scientific Sections.

1:30 P. M.—Scientific Sections.

7:30 P. M.—First General Session.

September 19th

9:15 A. M.—Scientific Sections.

12:00 M.—Second General Session.

1:30 P. M.—Scientific Sections.

EXHIBITS

A splendid scientific and commercial exhibit will be conducted in the main auditorium of the Elks Temple.

REGISTRATION

Registration and information booth will be located in the main auditorium of the Elks Temple.

MEETING PLACES

Section meetings will be held in the several auditorium rooms in the Elks Temple and in the St. Paul's Parish House directly across the street from the Temple.

HOUSE OF DELEGATES

The sessions of the House of Delegates will be held in the main ball room, Hotel Hayes, on September 17th.

FIRST GENERAL SESSION

Time: Wednesday evening, Sept. 18, 7:30 P. M.

1. Call to Order—President L. J. Hirschman, Detroit.
2. Invocation.
3. Welcome—President Jackson County Medical Society.
4. Announcements—The Secretary.
5. In Recognition—R. C. Stone, Chairman of the Council.
6. President's Annual Address—L. J. Hirschman, Detroit.
7. Address—(Invited guest).
8. Nominations for President.
9. General Business.

SECOND GENERAL SESSION

Time: Thursday, September 19, noon.

1. Call to Order.
2. Report of Nominating Committee.
3. Introduction of President.
4. Business.
5. Adjournment.

SCIENTIFIC SECTIONS

The Scientific Sections will meet on the 18th at 9:15 A. M. and 1:30 P. M. and at the same hours on the 19th. Detailed programs of each section will be published in the September Journal.

HOUSE OF DELEGATES

FIRST SESSION

Place: Main Ball Room, Hotel Hayes.

Time: 10:30 A. M., September 17th.

Speaker: Henry J. Pyle, Grand Rapids.

Secretary: F. C. Warnshuis, Grand Rapids.

ORDER OF BUSINESS

1. Call to Order.
2. Report of Credentials Committee.
3. Roll Call.
4. Speaker's Address—H. J. Pyle.
5. President's Address—L. J. Hirschman.
6. Annual Report of the Council—R. C. Stone.
7. Appointment of Reference Committee.
8. Election of Nominating Committee.

NOTE—No two members from one Councilor District shall be elected to the Nominating Committee.

Duty of Nominating Committee:

- (a) Supervise Ballot for President.
- (b) Nominate:

(1)—Four Vice Presidents.

(2)—Delegate and Alternate Delegate to succeed Dr. Carl A. Moll and Andrew P. Biddle, terms expiring.

(c) Designate place of next Annual Meeting.

9. Reports of Committees:
 - Medical Education.
 - Public Health.
 - Legislation.
 - Tuberculosis.
 - Civic and Industrial Relations.
 - Venereal Prophylaxis.
 - Medical History.
 - Legislative Commission.
 - Delegates to A. M. A.
10. New Business and Resolutions.
11. Recess.

SECOND SESSION

2:30 P. M.

1. Roll Call.
2. Report of Reference Committees.
3. Unfinished Business.
4. New Business.

THIRD SESSION

7:30 P. M.

1. Roll Call.
2. Report of Reference Committees.
3. Report of Nominating Committee.
4. Elections:
 - (a) Four Vice Presidents.
 - (b) Place of Annual Meeting.
 - (c) Delegate and Alternate to A. M. A.
 - (d) Councilors.
 - 13th District
 - 14th District
 - (e) Speaker.
 - (f) Vice Speaker.
5. Unfinished Business.
6. New Business.

DELEGATES TO ANNUAL MEETING

List of Delegates and Alternates will appear in the September issue.

HOTELS

Hayes Hotel, No. of rooms 204 with bath

Single	\$3.00	\$3.50	\$4.00
Double	5.00	6.00	7.00 \$8.00

Otsego Hotel, No. of rooms 210 with bath

Single	\$2.50	\$2.75	\$3.00	\$3.50
Double	5.00	6.00	7.00	8.00

Dalton Hotel No. of rooms 100

Single	\$1.50
Single with bath.....	2.00 \$2.50
Double	2.50 3.00
Double with bath.....	3.50 4.00

Dalvan Hotel No. of rooms 67

Single	\$1.50
Single with bath.....	2.00
Double	2.50
Double with bath.....	3.00

Stowell House, No. of rooms 50

Single	\$1.25	\$1.50
Single, bath.....	2.00	
Double	1.25	1.50 \$2.00 \$2.50
Double, bath.....	3.50	

Jackson Hotel No. of rooms 40

Single	\$1.50
Single connecting bath.....	2.00
Single with private bath.....	2.50
Double	2.50
Double connecting bath.....	3.00
Double with private bath.....	3.50

Blackstone Hotel, No. of rooms 45

Single and Double.....	\$2.50	\$3.00
Single and Double with bath	3.50	4.00

Hotel Victoria, No. of rooms 48

Single	\$1.25	\$1.50
Single with bath.....	2.00	
Double	2.00	2.50
Double with bath.....	3.00	

PROGRAM OF THE LADIES AUXILIARY

Wednesday, September 18th

2:00 P. M.—Jackson Country club. Mrs. Guy Kiefer presiding.
Business meeting of the delegates to the Women's Auxiliary Convention.

Thursday, September 19th

1:00 P. M.—Bridge luncheon and golf at the Jackson Country club for all visiting ladies.

TRIPS TO THE NEW MICHIGAN STATE PRISON

Doubtless many of the guests and delegates will wish to see the new state penitentiary about two miles north of the city on the paved Cooper street road. The local committee will arrange through Warden Harry Jackson, one of the most amiable men you have ever met, to have groups taken through the prison and its factories. Bus transportation will have to be the medium for going there because other cars would take too much space and private cars are always searched at the exit.

The new hospital unit in the administration building will be finished by that time and the physician-in-chief, Dr. Speck, will be glad to show the visitors through his modern wards and operating quarters.

GARAGES

There are three large garages near the convention headquarters and the Hayes Hotel.

Temple Garage, 156 West Cortland St.....\$1 per day
Auto Inn, 154 West Pearl St.....\$1 per day
Hudson-Essex Co., 228 West Pearl St.....\$1 per day

The last named garage is back of the Hayes hotel, the Auto-Inn is one block east of this, and the Temple Garage is between the Elks Temple and the Hayes hotel.

Arrangements have been made for reserved parking privileges with the police department on all streets around the Hayes hotel with no time limit but of course this is open parking with police protection but none against the elements.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

PORTLAND A. M. A. MEETING

Some 3,000 doctors made the long journey to Portland and were amply compensated by a splendid meeting, sincere local hospitality and an ever varying scene of a wonderful country. The profession of Portland were alert hosts and combined the business of the session with enjoyable social functions.

Michigan was ably and efficiently represented by its five delegates: Doctors J. D. Brook, C. F. Moll, A. W. Hornbogen, C. E. Boys and C. S. Gorsline. President Hirschman was ever active in presenting reasons why Detroit should be designated as the city for the 1930 meeting place and when the time came for designating the next place of meeting, Detroit won out over four other cities.

The scientific exhibits were most interesting and instructive, revealing wonderful scientific advancements. They in themselves compensate attendance. The section programs were well attended and were replete with most interesting papers.

The House of Delegates expeditiously discharged its business. The following extract from Secretary's West's report merits most thoughtful consideration by every member and every county society:

THE NEED FOR COMPACT AND EFFICIENT ORGANIZATION

The medical profession, in common with all other groups of society, is feeling the strain of a great transitional stage in the life of our country. In some ways physicians are being subjected to greater pressure and stress than any other group. The tendency of government toward paternalism, the restrictions imposed by legislative enactments and by bureaucratic regulations, the establishment of great funds and foundations ostensibly benevolent in character but with potentialities for harm rather than for helpfulness, the trend of modern business with its instalment plans and high pressure salesmanship, the propagation of half-baked theories, semi-truths and positive misinformation through the public press and even through periodicals designed for physicians, a flood of loose talk that is indulged in with scant consideration of what is and what is not fact and, it may be, the disposition on the part of a minor element of the profession to commercialize the practice of medicine and to pull away from ideals and traditions, established through the ages, that have made possible the progress and

the achievements of scientific medicine—all these are factors in the situation that exists today in which the medical profession finds itself the object of much criticism that is not deserved and the recipient of many suggestions for its own conduct, some of which may be helpful while others are known by physicians to be unpractical or even dangerous.

There has never been a time when there was greater need for compact and efficient organization of the physicians of this country than exists now. Our own plan of organization is comprehensive and, in most particulars, entirely sufficient if put into proper operation and carried out with reasonable efficiency. This cannot be done if the dissipation of effort and the conflict of interest occasioned by the existence of a multitudinous number of independent medical organizations are to be continued. The number of these independent groups can be materially reduced with benefit to the cause of scientific medicine and, consequently, with benefit to the individual physician and to the public. They are maintained for the most part by our own members who could contribute more to the common good through the county medical society, the state medical association and the American Medical Association as the fundamental and necessary organization of physicians in the United States. The inordinate number of medical meetings occasioned by the existence of so many societies, the frequency of hospital staff meetings, on which attendance is compulsory under rules established by others than those who must attend, glorified as many of these staff meetings are into scientific societies, will sap the vitality of the county medical societies and make it impossible for the regularly organized profession to deal with problems that are pressing for solution and that cannot be solved through any other agency.

In one city, with a medical population of less than five hundred, thirty-three meetings are scheduled in one month, twenty-nine of them staff meetings. In another city, with less than nine hundred physicians, including non-members, twenty-three meetings are scheduled in one week, eight of them staff meetings. These examples might easily be multiplied if necessary.

In practically all instances, the members of independent organizations are the members of the component county medical societies. The work of the one group must be done by the very men that must be depended on by the other. Why cannot the regular organization meet all the needs of its members, since whatever is done must be done by them? If there is need for special programs, why can they not be arranged for by the county society and the state association and the national organization as a part of their own broad programs of work?

There are problems arising out of more or less revolutionary conditions of the times that cannot be effectively solved except through the agency of organized medicine. There are others that will

be solved only through the processes of evolution, although efforts are constantly being made to deal with them by the application of revolutionary methods. There is great need for well considered action on the part of a unified profession looking toward the solution of those problems that are susceptible of solution through human agency. It is equally important that there shall be no ill considered action in attempting to deal immediately and finally with those that will be worked out only through the process of time. There is need, also, for combating the efforts of agitators who set up windmills on which they can break their lances, who create great furor over pseudo-problems, and thus detract attention from important matters that should receive earnest and persistent consideration.

The urgent demand of the time is for unified action and for expression through a great voice that will speak authoritatively for the entire profession of medicine in the several states and in the United States. This demand can be properly met through unity that is possible only as the profession is compactly organized and as its attention is centralized, without undue division of fealty and without unnecessary waste, on those responsibilities and duties that naturally devolve on the profession in its organized capacity and that heretofore have been discharged with credit and honor.

County societies are urged to stress this recommendation in their local bulletins, and to mold local situations so that they will conform to Secretary West's recommendations.

Dr. Malcolm L. Harris of Chicago, assumed the office of president. Dr. Wm. Gerry Morgan of Washington, D. C., was chosen as president-elect. Dr. F. C. Warnshuis of Michigan, was re-elected as Speaker.

He who fails to attend an annual meeting of the American Medical Association, forfeits a wonderful scientific inspiration. It is hoped that the 1930 session in Detroit will induce a goodly number of our members to become regular attendants. In a subsequent issue extracts of official reports will be imparted.

HILLSDALE COUNTY

Again has the hand of death been laid heavily on the Hillsdale County Medical Society. On the evening of Friday, May 24, Dr. F. R. Robson of Reading, a well loved and faithful member of that society, returning late to his home from his office, was stricken by apoplexy and rapidly passed into a deep coma from which he never recovered, passing away on May 27, at about 2:00 p. m.

Dr. Robson was born at Belleville, Mich., January 11, 1874, and was therefore aged 55 years, 4 months and 16 days. He received his pre-medical education at the High School of Belleville after which he was graduated from the Detroit College of Medicine in 1897, followed by a post-graduate course at the University of Chicago. After this he came to Reading, Mich. and opened an office for practice. He soon became widely known as a skillful and conscientious physician. Ever genial, modest and unassuming, he was indeed, the "be-

loved physician" to a vast number of patients and friends, both within and outside of the profession.

He was married June 21, 1910, to Miss Etta Green of Detroit, who, with one brother, Edward Robson of Belleville and two nephews, survive him. He belonged to the Blue Lodge and O.E.S. in Reading, Knights Templar of Hillsdale, Reading Lodge 287 I.O.O.F. and Elks Lodge of Coldwater.

He was a splendid example of the "family physician" whose rapidly thinning ranks are a cause of grave concern to the medical profession and thinking people in general.

Being a member in good standing in his County Society, he was also a member of the Michigan State Medical Society and a Fellow of the American Medical Association.

Therefore, be it

Resolved, That we, the members of the Hillsdale County Medical Society wish to tender to the family and relatives of Dr. F. R. Robson, our deep sympathy in their bereavement, which is ours also and that of the community of which he was a part, and that this resolution be spread upon the records of this society.

By the Committee,
W. H. Sawyer,
D. W. Fenton.

OAKLAND COUNTY

Dr. A. L. Brannock won the Dr. Harvey S. Chapman trophy at the annual Oakland County Medical Society golf tournament Wednesday afternoon at Elizabeth Lake golf club. Dr. Brannock had a gross of 94 and a 24 handicap for low net of 70. The Dr. Chapman trophy has been donated for the annual golf competition of the county doctors.

Other prizes were won by Dr. E. Howlett, Dr. Frank Mercer, and Dr. Harry Sibley. "Dr. Dub's Trophy," for high score was won by Dr. C. A. Neafie, director of the city health department with a score of 153. "It was my first game of golf," Dr. Neafie said this morning. Last year it was won by Dr. Karl Zinn, who painted his name on the trophy, an enamel cooking pot, before it was presented at the affair Wednesday.

UPPER PENINSULA MEDICAL SOCIETY ANNUAL MEETING

The thirty-second annual meeting of the Upper Peninsula Medical Society will be held at Ironwood, Michigan on Wednesday and Thursday, August 7th and 8th. The program is as follows: Official Opening, Dr. A. J. O'Brien, President Gogebic County Medical Society; President's Address, Dr. H. E. Perry, Newberry, President Upper Peninsula Medical Society; Treatment of Fractures, Dr. C. W. Hopkins, Chicago, Illinois; The Physician's Library, A. F. Fisher, M. D., Hancock, Michigan; The Early Diagnosis of Exophthalmic Goitre, Dr. Samuel F. Haines, Rochester, Minnesota; Injection of Varices and Ulcers of the Lower Extremities, Dr. J. J. Walch, Escanaba, Michigan; Modern Methods of Treatment of Benign Prostatic Obstruction, Dr. Verne C. Hunt, Rochester, Minnesota; Patent Medicine and the Public Health, Dr. A. J. Cramp, Chicago, Illinois; Forceps and Episiotomy, Dr. E. L. Cornell, Chicago, Illinois; Treatment of Diabetes Mellitus, Dr. Arthur C. Curtis, Ann Arbor, Michigan; Focal Infection from the Standpoint of the Proctologist, Dr. Louis J. Hirschman, Detroit, Michigan; Infections of the Hand, Dr. S. L. Koch, Chicago, Ill-

inois; Personal Experiences with Pituitrin, Dr. W. L. Maccani, Ironwood, Michigan. The annual banquet for members, visiting physicians and wives will be held on the evening of August 7th. At 2 p. m. on August 8th a golf tournament will be held at the Country Club.

LENAWEE COUNTY

A joint meeting of the Lenawee County and the Fulton County (Ohio) Medical Societies with their ladies, was held at the Hotel Saulsbury in Morenci on the evening of June 20th. Twenty-five members of the two societies were present. After an excellent dinner, the ladies adjourned to the home of Dr. and Mrs. Westgate to play bridge.

At the business meeting, President Marsh gave a short report of the post-graduate course being held at the Receiving Hospital in Detroit under the auspices of the University of Michigan, the State Medical Society, and the Detroit College of Medicine and Surgery. He was very enthusiastic in his praise of the course. A motion was made by Dr. Chase of Adrian, and seconded, that the Society change its meeting night from the third Thursday in the month to the first Tuesday. Motion carried. A letter from Dr. George W. Crile responding to the Society's letter of sympathy to him following the explosion in the Cleveland Clinic was read by the Secretary.

After the business meeting, Dr. J. S. Pritchard of the Battle Creek Sanitarium gave a very comprehensive discussion, though very much condensed, of the "Early Diagnosis of Pulmonary Tuberculosis." Not within a long time has the Society had the pleasure of hearing so much of the high lights of a subject in so short a time as during this talk. He made it especially plain that early positive diagnosis of pulmonary tuberculosis is rare, but that all suspicious cases should be treated as if positive unless they can be diagnosed as something else. The symptoms of early cases should be considered as a toxemia. The temperature may be subnormal in the morning, but it rises to normal or slightly above at some time during the day. Primary infection is likely along the large bronchi, and there we may find the first physical signs. All suspicious cases should have a sputum analysis. When the patient says that he has no sputum, have him clear his throat in the morning and consider that as pulmonary sputum, as the discharges from the chest flow up into the throat during the night, and what appears as throat or head discharge is really the chest secretion carried up by the action of the ciliary epithelium.

After an expression of thanks by the Society, the meeting closed to await the conclusion of the bridge game of the ladies.

C. H. Westgate, Secretary.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

PRINCIPLES AND PRACTICES OF ELECTROCARDIOGRAPHY. Carl J. Wiggers, M. D. Price \$7.50. C. V. Mosby Co., St. Louis.

A quite thorough exposition that should enable one to appraise the readings of his electrocardiograph.

CLINICAL LABORATORY METHODS—Russell L. Haden, M. D. Price \$5.00. C. V. Mosby Co., St. Louis.

This is the third edition of a simple yet quite complete outline of laboratory methods for the average laboratory worker. It is modern and should be of material value as a laboratory guide.

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928—Volume XX. Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M. D., and Mildred A. Felker, B. S. Octavo volume of 1197 pages with 288 illustrations. W. B. Saunders Company, Philadelphia and London, 1929. Cloth, \$13.00 net.

Nineteen volumes of these collected papers of the Mayo Clinic are already before the medical profession. This fact and the reputation of the Mayo Clinic render it entirely unnecessary to say anything in regard to the quality of the contents of this twentieth volume. The papers are all conveniently classified, the greater portion of any one section being devoted to the alimentary tract. This section comprises 334 pages; 143 pages have been devoted to the genito-urinary organs and approximately 100 pages to the ductless glands. There are other sections on blood and circulatory organs; skin and syphilis; head, trunk and extremities; chest, brain, spinal cord and nerves; and the last section is devoted to miscellaneous subjects. The subjects treated are almost infinite in their vari-

ety. The volume is well indexed for ready reference and convenient to handle in spite of its nearly 1,200 pages. These volumes represent fairly, progress made in the medical sciences for the year. We cannot too highly recommend the present volume to our readers.

OSTEOMYELITIS AND COMPOUND FRACTURES—H. Winnett Orr, M. D. Price \$5.00. C. V. Mosby Co., St. Louis.

For some time Dr. Orr has imparted in medical journals his method of treatment in osteomyelitis and compound fractures. He now tenders to the profession in this book a complete discussion of the principles governing his method.

There is nothing to criticize. The principles enunciated are sound and while Dr. Orr has given emphasis to them they have been applied by many surgeons who did not consider them so extraordinary. What Dr. Orr stresses is important to the younger surgeon, not only in regard to osteomyelitis and fractures, but also in fact to all wounds—there are far too many and meddlesome dressings being done.

THE CONQUEST OF CANCER BY RADIUM AND OTHER METHODS—Daniel Thomas Quigley, M. D., F. A. C. S. Instructor in surgery in the University of Nebraska. Illustrated with 334 engravings. Price \$6. F. A. Davis Co., Publishers, Philadelphia, Pa.

The introduction to this volume is a very interesting historical resume of the various theories held from time to time concerning cancer. So far as can be gleaned from records up to a hundred years ago the author is inclined to affirm a

greater prevalence of cancer today than in past centuries but he is hopeful, since never before has our knowledge been so full, considering that in former times only the terminal stages were known. At present, through the assistance of modern science, physicians are in possession of the facts leading up to the development of the disease. The work is divided into four sections as follows: Section I, Sixteen Chapters on Cancer Causation and Prophylaxis; Section II, Eleven Chapters on Treatment; Section III, Summary of What We Know Concerning Cancer; and Section IV, Disease Conditions Other Than Cancer in Radium is of Value. This well written monograph is of especial value to those prepared to treat malignant conditions with radium but it will also be found valuable as a compendium of our present day knowledge of cancer and methods of prevention and attack.

GYNECOLOGY—A TEXT-BOOK OF THE DISEASES OF WOMEN—Lynn Lyle Fulkerson, A. B., M. D., F. A. C. C., Instructor in Obstetrics and Gynecology, New York Post-Graduate Medical School; Surgeon, Cornell University Medical School Clinic; Associate Gynecologist Lutheran Hospital of Manhattan; Assistant Gynecologist New York Post-Graduate Hospital. With 612 illustrations, three in color. P. Blackiston's Son & Co., 1012 Walnut street, Philadelphia.

The author states that the object of this work is the presentation of the essentials of medical and surgical gynecology in a simple, clear, concise yet comprehensive manner, as it is taught and practiced by the active leaders in its special field. He compliments several surgeons for their time-saving operative technic, emphasizing the use of the knife instead of the scissors, and a continuous suture rather than an interrupted suture.

The table of contents shows the book to be divided into thirty-eight chapters. There are single but very short chapters devoted to discussions of "Diseases of the Urinary Tract," "Diseases of the Anus and Rectum," and "Backache," "Gonorrhea," "Syphilis," "Tuberculosis," "Protein Therapy," and "The Sedimentation Test." One questions the value and wisdom of writing so briefly upon some of these subjects.

The first 75 pages of the text are devoted to "Anatomy and Developmental Anomalies." This material is well selected and the descriptions are clear and direct, and are based upon a dozen bibliographical text-book references.

In the division entitled "Physiology" there is a discussion of endocrine glands, menstruation, ovulation and menstrual abnormalities.

The chapter on "History Taking and Examination" is very commendable, offering the student in short form and by clear statements a very practical form and method of history recording with the gynecological examination.

The chapter upon "General Operative Technic" is an unusually well-written outline setting forth principles of greatest fundamental importance. This chapter should be read and re-read by students of medicine and particularly those beginning surgical practice, and the first one-half dozen paragraphs should be ever in minds of those who are operating.

Chapters XXX to XXXIV are indicative of the author's ability in surgical technic and the use of clear, concise directions in surgical procedures.

One might go through the entire book following the descriptions of technical surgical procedures and make the same favorable comment.

Throughout the book one finds the descriptions upon etiology and pathology altogether too brief.

James E. Davis.

MEDIUM SIZED TYPE MOST EASILY READ

Large sized type does not save the reader's time. On the contrary it is read more slowly by adults than is type of a medium size. This strange conclusion was reached by two professors as a result of a test given by them to 320 sophomores at the University of Minnesota. The test material consisted of paragraphs of equal reading difficulty printed in 6 point, 8 point, 10 point, 12 point and 14 point type. The students' speed of reading was determined for each different size of type, and it was found that the material in 10 point type was read more quickly than either the smaller or the larger type. The difference in number of words read per minute was quite large, especially for the extreme sizes of type. The number of words per minute from 10 point was 6.2 per cent greater than from 6 point, 5.2 per cent greater than from 8 point, 5.8 per cent greater than from 12 point, and 6.9 per cent greater than from the 14 point. The 10 point type is the size commonly used in well-printed books.—Science Service.

The contributed articles and editorial in this Journal are printed in 10 point. The Science Service, abstracts of papers from the Journal of the A. M. A. and others are printed in 8 point type and foot notes in 6 point.

AN UNREASONABLE TAX

(New England Journal of Medicine)

One of the most unreasonable increases in the tariff is that which increases from 45 per cent to 70 per cent the tariff on surgical instruments.

It may be that the proponents of the bill believe that surgeons are so prosperous that they can afford to meet this added cost. * * * A considerable proportion of steel surgical instruments are not made in this country and the tariff on these does not protect local manufacturers to any great extent. The steel instrument industry is a highly specialized occupation requiring expert workmen and expensive mechanical equipment and the products are turned out at lower cost in European countries than is possible in the United States. * * * If members of congress were aiming at the medical profession there is still no apparent reason for this increase for doctors pay the established rate on income and in addition special taxes. There seems to be little recognition of the great amount of unpaid service rendered by the members of the medical profession to the people at large, which might warrant some consideration in matters of taxation or tariff.

THE LABORER AND HIS HIRE

(Journal Indiana Medical Association)

No physician should work on a salary for any considerable length of time, as he gets into a rut and gradually becomes obsessed with the fear that if he goes out independently he will not earn a living. Salary is all right at the start, but some other arrangement whereby the physician goes on his own or shares in the return for his labor should be made early in a young physician's career.

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SHALL WE OPERATE UPON ACUTE PUS TUBES?*

MAX BURNELL, M. D., F. A. C. S.**
FLINT, MICHIGAN

The subject of the treatment of acute "pus tubes" has rather recently attracted the attention of two outstanding medical organizations: namely, the British Medical Association and our own American Gynecological Society. A summary of conclusions drawn in their discussion of this subject, is of great interest.

The British Medical Association chose Alex Bourne, Bonney, Blair Bell and Phillips, easily among the outstanding gynecologists of England, to prepare papers to be read before the general assembly of that association. Bourne pointed out that, "the cardinal lesions requiring treatment are: (1) Suppurative inflammation of the tube and (2) Suppurative pelvic peritonitis and that these conditions being inseparable, they cannot be regarded independently. The first object of treatment is to arrest the acute disease and to prevent the formation of chronic sequelae such as pelvic peritonitis, interstitial salpingitis, pyo-salpinx, etc. The ideal is to arrest the destructive inflammatory process at the earliest possible moment. It is important to operate as soon as the diagnosis of suppurative salpingitis is made."

Bonney followed, saying that for many years he had advocated operating on all cases of salpingitis at the earliest possible moment. He asks: "Is an inflamed tube capable of recovering its function and if so is the likelihood of such recovery considerable or small?" He is of the opinion that the likelihood is small.

Blair-Bell took the floor to denounce the radical measures of the first two speakers and stated that: "Operation is not required until the acute or sub-acute stage has long since subsided and that operation during the acute stage of strepto-coccal salpingitis is positively dangerous." He further added that in acute salpingitis in which the presence of pus in the pelvis demands interfer-

* This paper was presented to the Section on Gynecology and Obstetrics at the Annual Meeting of the Michigan State Medical Society held in Detroit, Thursday, Sept. 27, 1928.

** Dr. Max Burnell graduated from University of Michigan in 1918. He specializes in gynecology and obstetrics. Member of staffs of Hurley and Women's Hospital at Flint.

ence, he limits operative procedure to posterior colpotomy.

Phillips arose to support Blair-Bell's conclusions clearly demonstrating what a wide divergence of opinion existed in the minds of representative British gynecologists on this subject.

At a meeting of the American Gynecological Society held in Washington, the question of the treatment of acute salpingitis was brought to their attention by Hubert Royster. Prompt discussion followed, led by such outstanding gynecologists as George Gray Ward, King, Chalfont, Vineberg and Polak. The summary of their conclusions is also most interesting. Said Royster in his paper: "Of one fact I am now thoroughly convinced, that no very long period of time is necessary to elapse after the acute attack before operation may safely be done. The benefit to be gained from delay of a month or so, as advocated 15 years ago by Simpson, has been much exaggerated. A week may be sufficient for the subsidence of the inflammatory process. Then the operation may be easily performed for the adhesions are strong enough for protection and yet not too dense for manipulation." He also quoted Bonney: "a pyosalpinx or an ovarian abscess is a disgrace to the surgeon if the delay which allowed of such formation can be laid at his door. The parallel with acute appendicitis is a fair one. There the surgeon seeks to operate before abscess formation because the operation is safer than after an abscess has formed."

J. E. King arose to say that: "In gynecology as in other branches of medicine, our aim should be the prevention of pathology. We are not preventing pathology when we allow a suppurative tube to involve adjacent structures in inflammation and adhesions requiring eventually extensive surgery. Because a salpingitis after several weeks subsides, it does not necessarily mean that there will not be subsequent attacks leading to the development of a pus tube for which we feel entitled to enter the pelvis. At such a time with the tubes, diseased ovaries must often be removed or an ovary in doubtful condition is left which may later give symptoms and require subsequent removal. All this is not conservative gynecology."

George Gray Ward then emphatically disagreed with both Royster and King. Said he: "I feel that Simpson and others have pointed out the right road and instead of waiting the length of time Dr. Simpson advised, we have increased it and

think that we get very much better ultimate results in conservation not only of the ovary but of the child-bearing function, by a longer delay until the acute and sub-acute stages are past. You may ultimately have to operate, perhaps six months after the first attack, but you save the functioning organs."

John Osborn Polak added that: "there is no question but that the tubes involved in a gonorrheal infection, if the infection is not mixed, regenerate themselves. I have four women who have subsequently become pregnant following a severe infection of the tubes. Therefore, I can see no justification for the wholesale removal of acutely inflamed tubes."

What, then does all this discussion mean to us here this afternoon in Michigan, an industrial state, where gonorrhoea is rife and acute pus tubes are an everyday occurrence. As I read the preceeding conclusions, I recalled two outstanding cases that dramatically demonstrate both sides of this debatable questions:

(1) A young woman, who when I was called to see her, had very apparently an acute salpingitis and was extremely ill. Having been brought up as a "conservative" under the teachings of Reuben Peterson and J. O. Polak, this patient was put in Fowlers position, Harris drip, etc., and a regime of "watchful expectancy" followed. The fever lasted for three weeks. The patient was emaciated and developed a marked anaemia. Pain was persistent in both lower quadrants. The acute stage passed and finally, I consented to operate only to find the uterus, tubes, ovaries and intestines so matted together by dense adhesions that closure of the abdomen was all that was to be done. This patient is now a chronic invalid. Could I have saved her all this by operation when I first was called to see her, and the process known to be in its early stages before actual pus tubes, pelvic peritonitis, and adhesions were present?

(2) The other case came to my attention some months afterward and presented a similar picture in the early stages. The family physician, who had watched the patient carefully, favored a diagnosis of acute appendicitis and operation was insisted upon. The appendix was found to be normal but the tubes were acutely inflamed. Having in mind the case just cited and the statements of Bourne, Bonney, Royster and King, bilateral salpingectomy was done. The patient rapidly regained her health and strength to the state

of attracting a young man who wanted to marry her. She accompanied the young man to my office. I had to tell them that they could have no children. They were heart broken. Remembering the words of Polak: "gonorrheal pus tubes do regenerate," I did not feel so good myself.

Was I wrong in both instances or was I right?

Out of the great number of cases of acutely inflamed tubes that have come to my attention during the past ten years, these two cases stand out vividly as representative of the widely divergent opinions on this subject.

CONCLUSIONS, IF ANY

Is operation the most conservative treatment as some would have us believe? Does the removal of the acutely inflamed tube find a classification under "preventive medicine" in that it arrests the acute process, thus preventing the formation of pathology as stated by Royster, King, Bourne and Bonney?

On the other hand, are we justified in allowing the formation of such sequelae as pelvic peritonitis, interstitial salpingitis, pyo-salpinx, etc. in the hope that these tubes will regenerate and subsequent pregnancy in a few cases warrant our more "conservative" policy?

Somewhere in this picture enters that most cherished possession of the medical man: "judgment." There is no question in my mind that both the widely divergent opinions on this subject of treatment of the acutely inflamed tube have their place. Royster closes his paper with: "After all, the decision as to *whether* or *when* or *how* to operate in acute salpingitis comes of long experience and careful observation. There is something about these patients—the facial expression—the feel of the pelvis—the lay of the hand—the story of the disease, that carries its own conviction of what will be safe and successful in each individual case. In every instance there are debatable questions and happy is he who may solve them all to his satisfaction."

DISCUSSION

Dr. H. Wellington Yates (Detroit): I was very much interested in what I heard of the doctor's paper. As I view the whole thing, and what I have heard, it seems that he has not come to any conclusion himself in these cases as to what to do. Of course, it is a very important thing as to whether we operate on a patient in an acute condition. We have had more or less widespread opportunity of viewing this situation. We have definitely come to the conclusion in our

own minds that it is a definitely serious thing to operate a patient in an acute stage, whether it be an appendix or a tubal condition. As to differentiating our cases—whether they are streptococcus, or gonococcus, or whatnot—I defy the majority of us here present to tell what group of symptoms, or what definite classification or organism we have from the clinical symptoms that are present.

Even in those cases in which we feel that we have a definite history of gonorrhea and so on, if they have extended any length of time we know definitely that they are a mixed infection rather than a straight gonorrheal infection. In the acute expression of disease in the abdomen I feel it is a very important thing that it isn't a split question at all. To my mind these patients should have an opportunity of coming to a place where they can safely be operated.

As to whether the tube is going to be saved or not afterwards, is quite a different question than whether the patient is going to live with, or without, a tube. I think that is the real question after all in the choice of the operation.

Dr. W. P. Tew (University of Western Ontario, London, Canada): This subject was very nicely dealt with and the writer left us very much as we started. But I think he put all the points very plainly before us. Personally I think a workable plan is that we must treat each individual pyosalpinx patient upon her own individual merits. The young patient, unmarried, or married, I am convinced is worth giving a chance. An older patient I would resort to the radical surgical means. Of course, I am sitting absolutely on the fence when I am doing that. I think each individual patient has to be treated on her own individual merits. If she is unmarried and wishes to be married, which the majority of them do eventually, the problem has to be taken up with her, and if she is willing to make the sacrifice then it is all right.

If she would rather run the chance—and we have tried both in our clinic, some of them to our sorrow—and report periodically you may be able to tide over the patient and we have cases on record where they become pregnant and went through a perfectly normal pregnancy. I had a young married woman. Her sole reason for coming to me was the fact that she had never been pregnant. I put her through the gauntlet to find out why she hadn't. The husband was all right, and his original story to me was not the same as that which he told me afterwards. I had the patient under an anesthetic for an examination. I found a condition that I thought was a chronic salpingitis. I let the patient come out of the anesthetic. She was prepared for a laparotomy. I saw the patient's husband and told him I did not operate and I told him why. I went in afterwards and saw the patient and told her why, because her sole idea in coming to me in the first place was the fact that she wanted children. If I had operated that morning she would not have had any chance of having children. Now she probably has one chance in at least 50 or 100 of having children. The husband came to me afterwards and thanked me very much and said, "I didn't tell you all of the story." Then he told me the rest of the story.

He had had an infection two years before he was married and he had an infection six years before that. There was no doubt about what this was in my own mind, although bacteriologically I never got a positive smear. I am quite sure of

what it was. Her sole reason was the want of a family.

Dr. James E. Davis: I cannot help but say just a word on the subject. Acute pus tub may mean a tube in which the stomata are not closed. If you have a young woman and the stomata are not closed, and you have pus in the tube, I do not think anyone should take out the tube under a condition like that. I think the problem ought to be clearly defined as the last speaker has said. Again, if you have a patient with pulmonary tuberculosis, who suddenly has a pain in the region of the tube. You have a right to suspect that there is a dissemination of the tuberculous process. What use is it to remove that tube although there may be pus there?

In the case of gonorrheal salpingitis, as has already been said, a great many of these cases will get well. Anyone who looks at tissues knows there are hundreds and hundreds of tubes that get well without anything being done. They have repeated attacks of salpingitis, and for that rea-

son I think it is necessary to be careful in the selection of the cases. The most careful examination ought to be made and a careful decision arrived at before the operation is done.

Regarding the topic of operation I feel that a great many patients are operated upon unnecessarily on account of a few pus conditions. They thereby lose a great deal of happiness. They might recover entirely on a proper gynecological treatment.

In our own clinic we advise against operation in the acute pus tubes unless they have had a trial of medical treatment long enough and under good conditions. I think there are certain types and characters of cases—waitresses and so forth where they have perhaps gotten their infections as a part of the way to earn money—where they should not have as long a time as those who have acquired it innocently, like married women.

I think the subject is of great importance. I think the patient should rest. That is a very valuable factor in the treatment.

A PHYSICIAN'S REMINISCENCES

CHARLES H. BAKER, M. D.

BAY CITY, MICHIGAN

Mr. Chairman, Fellow Members and Guests:

Certain savage tribes are said to have an interesting custom. When they are about to separate one of their enemies from his ego, they furnish the victim with a feast, and plenty of drugged wine. Other peoples, possibly not so savage, have the habit of deciding when one of their number has outlived his usefulness, and they announce the fact to him by providing him with a bag of food, leading him into the wilderness to a hut prepared for the purpose, and leaving him until time and nature have taken their due toll. Still others simplify the matter by leading him into the bush and calmly knocking him on the head.

The modern refined way to accomplish the same end is followed by the popular dinner clubs who express their sentiments by singing a ribald song which goes as follows: "Old Man Baker ain't just what he used to be, many long years ago." When I received notice of this dinner I just wondered what was really in the back of the heads of the members of this society. But leaving joking aside, I deeply appreciate the honor conferred on one who feels himself unworthy of such a testimonial as this splendid dinner has been. So I stand before you much as I expect to before St. Peter at the Gates of Paradise; bearing the sheaves I have gleaned in the fields of endeavor. I will try to lay them before you, that you may see if perchance they contain any valuable grain, or if they are just straw and chaff.

What I say will have to be largely biographical, and I trust you will forgive the frequent use of the personal pronoun. If

the continuous practice of medicine for 47 years, (it will be that long at the end of June) and the fact that medicine has changed almost completely from an art to a science within that time, entitles one to be called a pioneer, then I shall lay claim to that title. Poverty is the normal state of pioneers everywhere, in the beginning, and I could surely have qualified in that sense. By living at home and contributing to my support every cent I could earn by odd jobs, such as selling froglegs and polishing gravestones, I graduated with the Ph. B. degree from Hillsdale College, and spent the following summer peddling U. S. maps in Oakland County.

When I entered Ann Arbor, I had sent \$40 advance fees to the university. I landed there with \$5 in my pocket, and knew where I might expect \$10 more to come from. That, with an unlimited amount of optimism, was the capital I relied on to put me through the medical school.

I got a place where I could earn a dollar a week taking care of a horse for Prof. J. B. Davis of the Engineering Department, and another where I received my table board for caring for four coalstoves, sawing the wood for a kitchen range, taking

NOTE—In the May number of the Journal M. S. M. S. appeared a biographical sketch of Dr. Baker with an account of the dinner held in his honor at the Detroit Athletic Club under the auspices of the Otolaryngological Society. This paper constitutes Dr. Baker's address on that occasion.—Editor.

care of another horse, and being general chore boy.

The first dollar paid the rent for an uncarpeted room, with a sheet iron stove, a wash stand, a table, and one wooden chair. As soon as cold weather set in I had to buy a cord of four-foot wood, which I sawed to keep up my circulation until I had enough to burn to keep warm.

I thought the woman from whom I rented the room was a widow until, one day, a man whom I heard quarreling with her, in the rear rooms, locked me out of my room while I was away at a lecture. When I demanded admittance and, being denied entrance to my castle, burst the lock I had placed on the door myself, with my foot, and started in, he met me with a brandished hatchet and said I could not come in until I paid my room rent. Said rent was not due until the end of the week, but to regain control of my premises I tendered him my last dollar. He looked at me in surprise, as if he thought it might be counterfeit; rejected the dollar, and turning on his heel departed to the rear, saying, "You settle with the woman!"

I lost my first munificent job, but later got the same kind of place at the home of Dr. Victor Vaughn, where I promptly developed measles, and the doctor had to care for both me and the horse.

In my second year, I landed a job in the University Hospital, feeding by spoon the male cataract patients operated on by the senior Dr. Frothingham, and on Saturdays mopping the ward and halls adjoining. For this I received my table board and the privilege of sleeping in a short, draughty corridor leading to the cataract ward, on a bedstead I had coopered up from the discards of the hospital.

During the eighties there were two wooden buildings on the north side of the campus which were used by the regular and the homeopathic medical departments as hospitals. The fronts were two stuccoed square buildings that had been erected in the early days of the university as professors' homes.

As hospital needs increased there were added to each building a long wooden ward extending south into the campus and at the extreme end were two square, two-story buildings that contained the amphitheatres and patients' receiving rooms.

Near the west end of the regular hospital there was added a small building to accommodate the cataract patients from Dr. Geo. E. Frothingham's clinic which

was connected to the main structure by a short corridor.

It was in this corridor I slept for many months.

I finished my medical course \$150 in debt, which it took me a little more than seven years to pay. In the following two years I went into debt \$500 beyond the pittance I was able to earn by the practice of medicine.

I find by referring to my books that in my first year I collected \$396.50; the second I garnered \$417.18; and the third year my income climbed to \$679. Then I stopped borrowing to live. How many of you would have stuck to medicine if your first three years had been like mine? You may think that my income, in those days, was the equivalent of twice that amount today; but I want to tell you that I paid five cents for a single egg the first winter, so that my wife could make a cake to celebrate a birthday.

Up to the year I entered Ann Arbor, a medical course there required that a student should have a preceptor, some man in active practice, for one year. He might never have seen a patient at the bedside in that time—and that he should take two years of lectures in two sessions of nine months each. This was raised to three years the year I entered, and the system of preceptors was abandoned.

Possibly the requirements regarding preceptors were more rigid previous to the year I entered the College of Medicine, but from what I was able to hear from my fellows I think it meant little more in most cases than it did in my own.

In my own case I was required to give the name of my preceptor, Dr. Johnson of Hillsdale, but I was not asked to reveal the fact that in the year I was under his tutelage, I was busy as a student in Hillsdale College; that I never saw a patient with him but once and the one operation and the single autopsy I witnessed were after my first year in the college.

Several of the men who had had college training were given credits for work in chemistry and similar subjects, and allowed to take exams in anatomy and materia medica, being then admitted to second year classes. But they were compelled to do all the work of the three-year course in the two years they spent in college. I well remember the twinkle in Dr. Ford's eye when I gave him the circulation of the blood in a dried heart, but got the specimen wrong end to.

Also the man who took the quiz with

me on *materia medica* gave the dose of strychnia as three grains, and when I told Dr. Frothingham I would not give more than half a grain, he smiled broadly and told me my man would be dead just as soon as Mill's would.

When I graduated in June, 1882, bacteriology and pathology were recommended but not required subjects. Chemistry was a sort of ornamental frill which helped one to get passing marks, but nobody thought it had any vital connection with the healing art.

The first lecture on surgery to which I listened was one given by Dr. Donald McLean on the subject of laudable pus, and if any surgeon of the present day were to have happen, in one of his cases, what Dr. McLean then advocated as desirable, he would be liable to a suit for malpractice or criminal negligence.

Dr. McLean was a brilliant surgeon of the pre-antiseptic day. His favorite knife was a triangular bladed folding pocket knife, which he carried in his trousers pocket, and I have repeatedly seen him take it out, and without further preparation, open it up and do a laparotomy with it.

The second summer vacation after I entered school Dr. McLean brought back from Lister's clinic a steam atomizer with which he had the wound area sprayed with carbolic solution during his operations. Ether was his choice of anaesthetic, and I remember well the explosion which occurred when the vapor took fire from the atomizer and scorched off the eyebrows and pet moustache of Lee, who was giving the anaesthetic.

Bacteriology was an infant science, and Koch had not yet demonstrated the bacillus of tuberculosis or the infectious nature of the disease. Diphtheria antitoxin was undreamed of; and in 1890 I had the horrible experience of conducting in my second daughter a case of laryngeal diphtheria through to recovery without its aid. For nine days I stayed night and day beside her cot, tending a five-gallon can charged with lime water and turpentine, boiling on a gasoline stove, with the vapor conducted into a closed tent surrounding the cot. I have hated the odor of turpentine ever since. Bichloride of mercury, internally, and as a swab, and strychnia to maintain the heart action, constituted the medication, aided by the juice of raw pineapple to dissolve the membrane. She had vocal paralysis following the disease, and for six weeks never spoke above a whisper.

Today, if I had a case of diphtheria to treat, and could not have the help of antitoxin, I should rely on the bichloride as the nearest to a specific that is available. The case that best shows what the bichloride of mercury can do, in my experience, was one of a Polish lad about 12 years of age. When I first saw him the whole inside of the mouth, the cheek and gums, as well as the pharynx, were covered with a dark gray membrane, and he was severely prostrated by the toxin. In desperation I made a solution of bichloride in a tumbler of water of the strength of about one-thirteenth of a grain to the teaspoonful of water, and directed that he be given a teaspoonful every half hour. Next morning I expected to see the undertaker's card on the house, but to my amazement, the entire membrane was gone from the boy's mouth and he went on to normal recovery.

Because of my limited income, needed books had to be foregone. Outside the colleges there were few laboratories. Bacteriologic technic had to be learned and applied from textbooks conspicuous for their scarcity, and the acquiring of pathology and the advances in medical and surgical diagnosis was a rocky and uphill road.

After seven years of the practice of general medicine and surgery, the latter tending toward gynecology (I did many laparotomies; several cophorectomies; repaired cervixes and perineums, and shortened round ligaments), on the entrance of Dr. Carrow into the university, I succeeded him in his Bay City practice in the quadruple specialties of the eye, ear, nose and throat.

From my student days under Dr. Frothingham, I had given particular attention to these branches of medicine; and before taking Dr. Carrow's place I spent some weeks in New York hospitals brushing up and acquiring the new wrinkles. The men there were just beginning to remove adenoids, and on my return I was able to demonstrate their removal by forceps, (the curette came later) to both Dr. Carrow and Heneage Gibbs, the newly imported pathologist from London, England. Also I accomplished what the uninitiated considered a miraculous cure of deafness in a young girl by removing her tonsils and adenoids, after a number of specialists of note had failed in treatment.

You men of the present day see few of the desperate cases so common at that time of almost total deafness in young children from adenoids; the enormous masses of lymph nodes in the neck from tonsillar

infection; completely sloughing mastoids, with Betzold abscesses burrowing down as low as the clavicle; and the roofs of mouths gone or the entire pharynx occluded by syphilis.

Cocaine was introduced just a few months before I dropped into the specialty, and I attended clinics in New York under Dr. Koller whose thesis introduced it to the medical profession. His method of clinical instruction I would recommend for the student as the best I ever met. He would turn a case over to a student and say, "Tell me what you see in this case." The student would attempt to make a diagnosis, and would say, perhaps, "It looks like iritis, or possibly conjunctivitis." Koller would interrupt him impatiently, saying, "I did not ask you what the disease was; that is the least important thing about it; but tell me what you see."

There is a field of medicine of which we are just touching the edge, the field of endocrinology. Our first progress began with the discovery by an Englishman whose name I do not remember, that feeding raw thyroid glands of sheep to patients with myxedema brought about a cure. Next the glands were dried and another investigator discovered the active principle, then came the adrenal and the pituitary, and following Brown Sequard, men were being injected with emulsion of sheep testicle which at least made them lively while the effect of the injection lasted.

We know now how little success one may expect is exophthalmic goiter unless we look to the thyroid gland. Control of nasal bleeding during operation by adrenalin is a daily commonplace, but it was different in the early days. Many obscure diseases of the cornea apparently nutritional yield under thyroid feeding and chronic otitis media may be sometimes helped by its use.

As the accuracy of our knowledge increases, as well as its borders widen, we may expect endocrine therapy to be of great assistance but never can one hope to advance or do much good so long as he uses the blunderbus system of so-called "pluri glandular" therapy.

One or two years after I made the change in practice, the use of dried suprarenal gland to prepare solutions was brought to our notice by Parke Davis, and my first turbinectomies were done with a crude mixture of the powder in a saline solution. What do you think of the possibility of a surgically clean operation under such an application? The anaesthesia from the cocaine made the odor bearable to the

patient, even if it was offensive to the operator.

Men who practiced in Detroit at that time could not realize the difficulties under which I worked. Bay City had no hospital, and there were no trained nurses.

When anaesthetics were needed I had to call in the family doctor, who was supposed to know how to administer them—often a polite assumption—and I had to watch both the patient and the doctor!

No bacteriological or pathological examinations could be made unless I made them or sent them to Detroit or Ann Arbor, and few patients could stand the expense. Needless to say, I could not foot the bill myself, and many I would have liked went unmade.

I had to learn from patients whose afflictions were in other fields how a pharynx, post-nares or larynx ought to look, and from sheer bullheaded assurance, remove tissue I assumed to be diseased.

After two years of special work I had funds enough, that I felt I could use that way, even though I was much deeper in debt than before, to go to London and Europe for special study in hospitals and clinics. I was headed for Vienna, but the cholera of that year prevented my going there, so I studied in Rome and Paris instead, after some weeks in the hospitals of London.

Three times since I have been across the pond for study; and for years I went about every two years to the larger clinics in this country for the same purpose. The old demon of poverty kept me from spending one or two years in continuous post-graduate study abroad, as so many have done, but I have found that five minutes observation of a good man at work taught me as much as a month of study by myself.

My observations abroad taught me that the only real advantage to be obtained in foreign study was the wealth of docile medical material which is to be obtained in every clinic. Some of the men I saw were brilliant and skillful operators but none were better than the men of equal prominence in this country and unless the student possesses much more than the usual facility in foreign languages he will learn more of the finer points of diagnosis and treatment in this country.

If he has the money to spend he can buy himself an assistant's place which will enable him to do all the work he wishes to undertake in some of the foreign cities, but beyond a certain amount of doubtful prestige from a foreign residence I see very

little other advantage to be had over there.

When I changed to special practice, the mastoid was almost *terra incognita*. The classical symptoms of heat, redness, pain and swelling must be present for a diagnosis of mastoid disease, and Wilde's incision over the mastoid, done more or less gingerly according to the personal equation of the operator, was the recommended procedure. It was a bold man who, having broken into the lateral sinus, controlled the flow of blood with an unsterile rag, and had his patient recover, as I did.

Intra-nasal disease was poorly understood until cocaine and adrenalin opened the way to us. Douches and sprays were relied upon to bring a cure, because the fact that the accessible mucosa was not the principal source of the discharges, and that the accessory sinuses were the most important factor, was so dimly understood.

The bolder spirits attacked what they could reach through the nares, with caustic and cautery, and it was rare to find an adult who had suffered from nasal disorders who did not have abundant scarring of the mucosa.

Knives and saws to remove septum spurs came in an avalanche; crushing and twisting instruments outnumbered them; new snares appeared at every national meeting—I invented one myself—and everybody was busy in the nose while few thought of the accessory sinuses, and then mostly with dread. Then, all at once, as "fools rush in where angels fear to tread," someone attacked the antrum, another the sphenoid, and others the ethmoids, but all the time knowledge was piling up. The X-ray and improved trans-illuminators advanced our diagnostic skill, to the patient's good and comfort.

My first observation of nasal polypus was when, as a student, I saw Dr. McLean stand a man up in the amphitheatre; and without an anaesthetic, (for cocaine was not then discovered) and without a head-mirror to direct his aim, he plunged scissors forceps into the nasal chambers and dragged out masses of polypi as long as the patient could stand the torture.

Plastic surgery always had a fascination for me and I built eyelids by sewing flaps brought from the forehead or, as in one case, made entire lids by undermining the skin, both above and below, drawing the double fold down, retaining by suture and filling the remaining gaps by Tiersch grafts. I straightened noses, cut down humps and when that was the fashion filled up a few hollows in faces with paraf-

fin injections, luckily for my reputation not leaving them any worse than before. I did a lot of cleft palate cases with about the usual average of success. This field is now preempted by the dental surgeon.

Tonsils were sliced off on the level of the pillars, and we were taught that the stumps would atrophy and give no more trouble; while the only reason for their removal which was generally accepted was serious obstruction of the breathing. What a pity it is that a medical student must spend so much time and money to learn such a lot that is not so, which he must discard, and which he finds so hard to unlearn in the light of experience!

I plugged away alone trying to perfect my diagnostic ability and technic; I read my journals, I confess not as closely as I should have; I attended the state and national societies' conventions, and entered the Academy by way of membership in the old Mississippi Valley Association of which I became an early member. While I was in general practice, which occupied the first seven years of my professional life, I began dimly to recognize that the best way to master a subject is to prepare to present it to other people, some of whom will be hostile critics. And I learned to judge the value of a paper by the amount of discussion, hostile or otherwise, which it provoked.

My first paper outside the Bay County Medical Society was given in Flint before the Michigan State Medical Society, on the subject of Puerperal Septicemia, and I had as an adverse critic the man who ushered me into the world, Dr. A. F. Whelan, of Hillsdale.

I prepared and read papers before the American Medical Association at Saratoga, Atlantic City, Boston and other places, and at the last named, described a case in which I removed one vocal cord for the relief of the suffocation following bilateral abductor paralysis; the case which I consider the best work that I have done.

I always worked in and for the Bay County Medical Society, and I consider that to be one of the most important sorts of training for a physician after he is launched in his profession.

When I first began to specialize it was not uncommon to have a mother say, "I was advised not to come to you because you put glasses on everybody." Yet I can say that I never sold but one pair of glasses to a patient that I was not able to demonstrate had an error of refraction sufficient to account for the distress com-

plained of. The exception was a woman who came asking me to sell her a pair of eyeglasses. When I asked her to step into the refraction room, she said "I don't want my eyes examined, I can see as well as anybody." When I insisted I did not know what to give her without an examination, she consented to have me look her eyes over. She had no need of glasses and, when I told her so, she said she would go somewhere else if I would not sell her. I told her nothing but window glass could be worn by eyes like hers; she insisted that was what she wanted. So I fitted her with the things she asked for. Was I wrong to take her money?

Patients wearing glasses for anything but myopia or presbyopia were rare, and it took steady plugging to bring them to understand that there could be any other reasons for glasses. Also, at first, I saw many cases of non-traumatic glaucoma, but as the spectacle cult grew in popularity and good refracting became accessible to more people, I saw fewer and fewer cases. Now, what I do see come from the back districts where they have not had the chance to have proper care of their eyestrain. I think I have never seen glaucoma occur in a single eye where I could not demonstrate a refractive error, of considerable amount, in the other eye.

I have found skiascopy my most dependable aid in refraction work and always begin and end my refracting with it. So dependable do I consider it that if there is any disagreement between it and the other tests, I continue the examination until the other tests agree with it; or if they cannot be made to agree, I make the final decision in accordance with its findings.

Atropine was always an unsatisfactory drug to use in refraction work, and I found homatropine so often failed to bring out the whole defect that I began testing hyoscine hydrobromate in comparison with homatropine on the same patient. After a long series of cases I abandoned the use of homatropine altogether, and for 20 years, at least, have used only one-half grain to the ounce hyoscine in all cases needing a cycloplegic.

One drop instilled half an hour before beginning the test will insure enough arrest of the accommodation, in the majority of patients, to begin; and by the time the test is finished the arrest is complete.

The drug is certain in its effects, and will bring out more of the error in one hour than atropine, three times daily, will bring out in three days use. Forty-eight hours

is a fair average for the disabling effects, which is not much of a handicap to busy people.

In very rare cases I have seen delirium occur after the use of hyoscine. These have been of a few hours duration and have occurred in children of the blonde complexion and very fair skin. A few of this type seem to have an idiosyncrasy for the drug. By being on the lookout for this type, and using homatropine for this rare number, one can escape the annoyance of having to explain "how it happened."

Much of my cataract work had to be done on patients snatched from the stream headed for the free clinic at Ann Arbor, and I had to make it a rule never to let a patient that I could divert go there, if I had to do the work for nothing. I felt the university did not need them half as much as I did! This experience may have helped to determine my present attitude toward what I look upon as the unfair competition of the university hospital toward the profession of the state.

With my cataracts, I have developed a technic of the least possible post-operative restraint and have never had a case of delirium or excitement occur among my patients. The freedom allowed them has been such that I operated on one case in a private house with the patient seated in a rocking chair, where he stayed until bedtime, when the people of the house helped undress him. At the end of one week he rode home in a lumber wagon several miles into the country and continued to have good cataract vision.

I operated on one Polander, lying on a wooden bench in the kitchen of his home, and because the light from the single window could not be shifted, and my right hand shaded the eye, I operated with my left hand. I made a good operation, despite the fact that there was no one in the house who spoke English but a boy to give him, in translation, my directions. I am not sure the boy understood me. When I went to dress the eye, on the third day, the patient was entirely alone. I removed the dressing and turned to get the water for the cleansing. When I turned back, to my horror, he was standing up, pulling his lids apart with dirty fingers and looking across the fields to see how good a job I had done. He got sight in spite of it all.

One patient was perfectly passive and continued so until I introduced the cystitome, when she suddenly snapped her lids together. The speculum was forced from between the lids; the lens popped out and

fell into her ear. In spite of this crude method of delivery, she had only a mild iritis following, and recovered fair vision.

Because of the early want of hospitals, and the good results I obtained without their aid, I have done a big percentage of my cataracts in private homes, without cause for regret. On the percentage of successful cases, I am willing to compare my results with any equal number of operations done anywhere.

Following the ideas of Bosworth, whose textbook has been my rhinologic bible, I noticed early in my practice the close connection between the presence of polypi in the nose and spasmodic asthma. The smallest polyp, scarce large enough to engage the snare, will precipitate an attack in these cases and its removal will stop them.

What of vaccines in nasal and aural diseases? Regarding them I am almost a nihilist, my belief being the result of long trial on all sorts of cases.

As far back as 1900 I had a vaccine made for my own use, in Sir Almoth Wright's clinic in London, and followed it up faithfully. My nasal discharges lessened as they had done many times before, but in no shorter time nor in any different way than when I had used nothing.

In only two cases was I convinced that my vaccine really cured the patient. One was a young girl, 12 years old, with ozena, due to colon bacillus infection; the other a boy of eight who had a suppurating ear following scarletina.

In the latter case I had several times dried up the ear by the usual procedures, after a prolonged course of treatment, but it would not stay cured more than a few weeks. After an autogenous vaccine was used twice, this ear stopped running for six months, and then began to discharge after a hard cold. One use of the vaccine again stopped the attack, and the ear remained dry as long as I could keep track of the boy—which was for several years. I am not certain but that sterile milk would have done as well in these cases; for I think the foreign protein is the curative factor in the majority of cases that do respond in any degree to vaccine injections.

Do not understand me to be condemning all vaccines, for I am well aware of the good done by typhoid, tetanus and other vaccines; and I observe now that a new one has been developed to control distemper in dogs. But the germs that cause nasal diseases are legion in number, and there is an immense amount of research to be done be-

fore we can apply vaccines in our special field with confidence and certainty.

I am very skeptical of the benefits in nasal work of topical applications used for antiseptic purposes.

Nasal surgery, which will restore drainage to occluded sinuses, and establish patency in narrowed meati, accomplishes a lot for the patient's health and comfort, but sprays and washes and douches only serve to flush the sewer.

Ozena, I believe, is started by accessory sinus infection, usually, and whatever efforts are made for its cure will have to deal primarily with the sinuses. I think ordinary atrophic crusting and ozena are essentially similar except in degree and possibly the different kinds of germs present in either.

We have fallen down hardest in our management of chronic otitis media and you youngsters who are still in the productive and imaginative age below the forties should go after it hard! The man or men who can conquer that disorder will confer an inestimable boon on humanity, for, as yet, prophylaxis in youth is our only sure line of approach.

Another field that has been neglected is the time of onset and the causes of non-traumatic deformity of the interior of the nasal chambers. Many of the deformities of the septum and the turbinates for which we operate begin their development in early life, and possibly attention then might save much trouble later on.

Just as the government is importing parasites to combat insect pests, may it not be possible that bacteria may be discovered which have a phagocytic action on disease germs, and thus add another to our weapons, as an aid to vaccine and drainage methods?

There have been favorable results from the injection of chemical substances into the blood to combat bacteria; may we not reasonably hope that further study will reveal other and more potent substances?

"Not so fortunate were guinea pigs, rabbits and pigeons at Stanford University . . . Chemists decided to pump dyes into them in connection with investigations or remedies for diphtheria, ptomaine poisoning and some other afflictions, including snake bite. Rabbit is reported to have been given enough strychnine to eliminate a whole colony of bunnies and then kept going by doses of Congo red. Color treatments also were given rabbits which had ptomaine poisoning and guinea pigs which had cases of diphtheria, while birds were inoculated with cobra venom and then treated.

"Congo red especially got several credit marks as an effective agent in the battle against dis-

ease. It is explained that the antidotes help the corpuscles of the blood battle the bacteria that are harmful. All part of the work to enable humans to keep fit and live more years on this planet."

We know that there is something in the body which we call natural immunity to disease, but who knows what it is? May we not reasonably expect that we shall discover its identity and possibly find the means to set up immunity in those who do not have it by nature?

After several years work in the university, during which Dr. Carrow made a brilliant reputation as an operator, he resigned his position and his chair was divided.

My name was presented for one of the vacancies and I think I would have had one of the places, but I could not bring myself to see its advantages.

I had been almost 20 years my own master and could not look with relish on the prospect of having three masters, the regents, the president of the university, and the dean of the department of medicine over me, to all of whom I should have to defer more or less closely.

Neither did the fact that mine being one of the so-called practical chairs, in which I would earn an income above my salary, and thus be a target for the shafts of envy of men of equal or better brains than my own who had not the chance for added income, appeal to me as an unmixed good.

So, while I was away on my summer vacation, when I was asked by Dr. Vaughan to come to Ann Arbor to talk matters over, I did not go. When I see the fine records that Doctors Parker and Canfield have made, I am sure my choice was no loss to the university.

As my ship is rapidly approaching what Mark Twain spoke of as "Pier 70" I can look back along the wake and in the distance see some of the landmarks by which I have steered and I trust you will bear with me while I point out a few of them. It may help some of the new voyagers to

steer a course with less hesitation and help them to avoid some of the hidden reefs on which many a fair reputation has foundered.

Every man should affiliate with his local society and one or more of the national bodies, and work actively on the scientific side in each.

I can say less in favor of the political side, but if his taste inclines that way, he may indulge it in moderation.

A man must choose between riches and honor in the medical profession, for few men can attain both.

Unfortunately most of us depend on the receipts of our practice to buy bread and cheese for the family, and the money spent to avail ourselves of these outside helps to glory must come out of luxuries, if not out of the comforts of the family.

Reputation may bring income in the end but the returns are often slow and one is tempted to give up the pursuit of "the bubble reputation" and go out to join the ranks of the dollar chasers.

Do not permit yourselves to be lured from the straight and narrow way that leads to medical righteousness.

Let your code of ethics be the simple one of the Golden Rule.

My financial creed is that when a man has provided reasonable comforts for his family and has given his children an education, he has done his duty by society; then if he can accumulate enough of this world's goods to maintain himself and his wife to the end, without becoming a burden to others, he has done his full duty, and his life may be called a success.

If, besides this, he has added something to the world's happiness and comfort; has made life a little easier and pleasanter for those who have no claim but their common humanity upon him, then, when the time comes, which is the inevitable end of all, he can wrap his cloak of achievement about him and contentedly sink to rest.

FIRST FALSE TEETH WORN BY WOMEN OF PHOENICIA

The first false teeth, so far as we know today, were worn by a woman in Sidon in Phoenicia about 300 B. C., according to Dr. Roy L. Moodie, well known anatomist. The Phoenician woman's jaw, with the false teeth, is now preserved in the Louvre, in Paris. The two right incisors are represented by artificial teeth, held in place and bound to each other by gold wire. The wire has been drawn through careful perforations in the artificial teeth. Although the Egyptians pioneered in treatment of many diseased conditions of the body, this sort of dental replacement apparently

was never devised by Egyptian physicians. Thousands of mummies, representing seven thousand years of life in Egypt, have been examined but no clear evidence of such repair work has ever been found. It appears that we not only owe our alphabet and numerous geographic discoveries to the restless, inquiring minds of the Phoenicians, Dr. Moodie points out, but also we are indebted to them for this entrance into prothetics, which is a particularly valuable field of dentistry.—Science Service.

GROUP PRACTICE

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Group practice has been during the past twenty-five years, an important development in the effort to give more efficient service to the sick and to meet what was believed to be a public need. Groups have been organized all over the country, and although some of them have, after a period of trial, gone out of existence, there are many which are being conducted successfully giving real service.

Groups devoted to private practice, usually termed "Clinics", may be divided into two main classes; those which are organized as personal service partnerships, and those which have developed professional co-operation only, each member handling his own business affairs. Some groups do a wide range of practice while others confine their attention to some one specialty.

We have had at St. Johns for seventeen years, a group or clinic in the form of a personal service partnership. This has grown from a group of three—two doctors and a nurse—to fourteen, eight of whom are doctors, working pleasantly together, without friction and with mutual benefit to all. I am happy to be able to say that during all that time there has been no personal ill feeling or trouble of any kind between the various members. Our work coming from a wide scope of territory, has shown a good increase every year, and has proved satisfactory to all concerned.

From our own experience, observation of other groups, and a study of the subject, we have come to realize that there are certain fundamental truths or principles which should be given consideration if this form of practice is going to prove successful and satisfactory from the standpoint of both the patient and the physician.

A group is formed for the purpose of giving more efficient care and treatment to patients and this at less expense to them than individual practitioners. It should also be able to make greater financial returns in proportion to the work performed, to the members than could be secured through individual practice. If it cannot accomplish these purposes there is no excuse for a clinic.

If these aims are to be achieved there are four relationships which deserve consideration: Those to patients, to one another, to the public and to surrounding professional brethren.

In relation to patients—each member of a group should endeavor at all times to do his best for every patient; to give to him or her the kind and quality of service he

would want for himself or one of his family and this regardless of financial or other considerations.

In relation to one another—he should be willing to subordinate personal considerations to the interest of the group and its patients. He should be open-minded and broad-minded, also an earnest seeker after truth. He should think in terms of the group rather than in terms of himself. He should possess the qualities essential to success in individual practice and he should in addition develop the qualities necessary for efficient work with other men. He should be willing to work in whatever position, in the opinion of the one in charge, he can serve to the best interest of the patient and there give loyal service. He should be willing to arrange for work by one of his associates just as cheerfully as he would arrange it by himself, also honestly support the work of his associates or he should not be a member of the group. We owe it to our patients to recommend to others only when we would under like circumstances trust ourselves or one of our own to such physician.

In relation to the public—Members should never give or take offense, if it is possible to avoid it and they should never be on ill terms with anyone; they cannot afford to do so.

In relation to our professional brethren—avoid saying ill words of any of them and never take offense at anything said or reported to have been said by one of them against members of the group.

The science of practicing medicine and surgery is the science of applying medical knowledge in its broadest sense to the relief and cure of disease. Such knowledge is secured by study and training in college and hospital. The art of practicing medicine and surgery is largely the art of handling people. It is the art of attracting people, gaining their confidence and thereby obtaining the opportunity to apply knowledge and skill to the relief and cure

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of their ailments. The ability to apply scientific knowledge to the relief and cure of disease skillfully, wisely and therefore successfully can come only through experience.

Cowper says:

"Knowledge and wisdom far from being one, Oftimes have no connection. Knowledge dwells In heads replete with thoughts of other men, Wisdom in minds attentive to their own, Knowledge is proud that he has learned so much, Wisdom is humble that he knows no more."

The difficulties of medical practice in relation to the many variations which disease constantly presents is well expressed by the late Sir William Osler when he says:—"The problems of disease are more complicated and difficult than any others with which the trained mind has to grapple; the conditions of any given case may be unlike those of any other; each case, indeed, may have its own problems.

What is new today may be old tomorrow. The rapid advance of scientific medical knowledge is well expressed by Dr. William Mayo in his Fellowship address before the A. C. S. at Boston, October 12, 1928 when he said:—"Of the three learned professions, the church and the law deal with subjects more or less closed. The church is concerned with carrying out precepts and examples of 2,000 years ago. The law depends on precedents established by the yesterdays of life, but in the profession of medicine tomorrow is the great day."

The graduates of Class A schools for the past few years are well trained in the science of medicine but I have been particularly impressed with the fact that some of them at least have but scant knowledge of the art of practice, indeed, have little conception of its importance. The result is that our young graduate mistaking his knowledge and training for skill and wisdom, many times has a sad and sometimes disasterous awakening. He is liable to become discouraged when confronted by the complexities and perplexities of every day practice.

One of the sources of failure of groups devoted to private practice has been the attempt to arbitrarily shunt or assign patients to certain physicians for treatment. A group or clinic should be divided into departments for the convenience and efficiency of work. Each member should give special attention to some line of practice that greater skill may be developed. It is an undoubted fact that the continued success of such a group requires that each

patient shall have free choice, within certain limits, of his or her physician in the clinic. While we may recommend them to others, still each physician must win for himself.

In a clinic or group all patients are patients of the clinic rather than of the individual physician. Our policy has been to refer patients to the department or physician best prepared to care for their particular complaints whenever this could be done with satisfaction to the patient. A little tact and persuasion or "selling the idea," will usually accomplish this purpose and with mutual satisfaction, especially when the members have the necessary qualifications. Every effort should be made to retain the individual relationship between the physician and his patient.

The theory of a group is that each patient shall receive better care and treatment from its members than could be secured from individual physicians. In order that this may be accomplished, consultations should be held between the various members whenever there is a doubt as to the diagnosis or the method of treatment. Each one should assume a degree of responsibility for the results in all cases treated by other members.

By segregating the care of dangerously infectious and contagious diseases such as erysipelas, streptococcus blood-poison, and scarlet fever, in the hands of members not in attendance upon surgical or obstetrical patients, greater safety is assured the later and adequate care for the former. This is of especial importance to groups engaged more or less in general practice. Group practice makes possible continuous care for all critically ill patients since arrangements can be made for one or more members to be constantly on duty or on call. This will assure the prompt meeting of emergencies and may sometimes save a life. Internes are not always available and when available are not always sufficiently experienced to adequately recognize and meet important crises.

To make group work successful, members whose time and strength permit, should be willing to attend to detail work, night calls, and other necessary things which others for various reasons cannot attend but which must be cared for if efficient service is to be given. To insure harmony of efforts some routine methods, both professional and business, are necessary. Such should be carefully thought out and adopted to suit particular needs. Important changes in these routine meth-

ods, used in and by the clinic, should be made only at conferences. Such changes should be based upon direct proof that more satisfactory results will follow or upon reasons which make it plain that their adoption will improve results.

To assure personal and professional harmony among the members, they should avoid mixing professional and clinic business with private and domestic affairs. The wives and families of members can be only patients or honored guests at the clinic, nothing more.

That the members should receive larger financial returns from their work than could be secured in individual practice, it is necessary, at least in personal service partnerships, that there be good business organization and management. To render this possible some member who has business ability should be made business manager or a capable business manager employed. It is possible by using good business methods, by economy and judgment in buying, and by care in avoiding waste of supplies, to keep the overhead expenses low. Careful and tactful collections will prevent undue losses. Economy in office service is possible in group practice since one bookkeeper, one file clerk, one technician, and one or two nurses can give service to seven or eight doctors.

It is usually considered in the practice of medicine that expenses including adequate office service and good equipment, cost of collections, losses, transportation, drugs, etc., will amount to 50 per cent on volume of practice. In group practice, good business methods should reduce this to 30 per cent or less even with due allowance for depreciation and interest on investment. The result is that larger financial returns can be made to the members in proportion to work performed than they could secure in individual practice.

By co-operation each department of a clinic not only assists but increases the practice of the other departments. To illustrate; a strong internal medicine department will filter out much work for the Surgical, X-ray, Eye, Ear, Nose and Throat Departments.

How shall a group determine the relative value of its members from the standpoint of remuneration? This is always a matter of some difficulty but there are practically about four things of paramount importance in relation to their activities that should receive first consideration:—(1) Quality of work; (2) ability to co-operate with others; (3) ability to at-

tract patients; (4) amount of work. Three of these are equally necessary in individual practice but the ability to co-operate with others is absolutely necessary in group practice and is a desirable quality to cultivate in all kinds of practice.

To successfully practice medicine and surgery today requires a considerable degree of co-operation even by those in individual work as the very nature of the work depends upon this for results. The general practitioner, the surgeon, the internist, and many others are constantly referring patients to other men for various things or calling upon others for special examinations as a part of the day's work.

Dr. William J. Mayo says further in his Fellowship Address:

"Group medicine has been misunderstood because it has been talked about so much from the financial standpoint. Fundamentally group medicine has nothing to do with finance. Working arrangements can be made whereby each patient, rich, middle class, or poor, may receive necessary attention collectively, each consultant rendering a bill for service rendered. By agreement, the total charge in each case can be brought within the limit of the patient's means. Every physician worthy of the name is practicing group medicine. He is getting diagnosis of contagious and infectious diseases through boards of health, X-ray examinations through roentgenologists, and laboratory examinations through technicians. His duty is to evaluate and apply the results of such scientific machinery to the living patient."

To follow the "Golden Rule," to be open-minded as well as broad minded, to be tolerant of the opinions of others, and to be earnest seekers after truth, are essential to continued success in all kinds of practice.

Group practice will, no doubt, continue to develop and increase and a consideration of this subject from time to time will be well worth while.

Probably under most conditions of practice the group organized for professional co-operation is and will prove a very satisfactory arrangement both to the members thereof and to patients. This has the advantage of co-operation among the members in solving the oftentimes difficult problems of diagnosis and in assuring skilful treatment for each patient. At the same time the members, who are not usually experienced business men, will not be troubled with the perplexities and complexities of modern business organization which to

succeed must be most efficiently organized and managed.

Personal service partnerships are, where conditions are favorable, the most efficient method of practicing group medicine. The element of competition is largely eliminated, and co-operation in solving the problems of diagnosis and treatment is secured. Efficient business methods assure the members better office service and larger financial returns in proportion to their efforts in practice. Finally patients will be assured of receiving better service at lesser cost which is the important criterion from the standpoint of the public.

After all, whether in individual or group practice, teaching service or whatever line of work, the medical profession has ever before it the great problems of human life,

health and physical well being which so often means happiness. This is well expressed by the late Sir William Osler in his address on "Chauvism in Medicine":

"To wrest from nature the secrets which have perplexed philosophers in all ages, to track to their sources the causes of disease, to correlate the vast stores of knowledge, that they may be quickly available for the prevention and cure of disease, these are our ambitions. To carefully observe the phenomena of life in all its phases, moral and perverted, to make perfect that most difficult of all arts, the art of observation, to call to aid the science of experimentation, to cultivate the reasoning faculty, so as to know the true from the false,—these are our methods. To prevent disease, to relieve suffering and to heal the sick,—this is our work."

COST OF MEDICAL CARE

Discussion of the cost of medical care is continuous and occasionally—as in the recent case in Chicago—flares up into heated controversy. It would be clarified if we first posed the question: "How much is it worth to be well?"

Dr. Dublin of the Metropolitan Life Insurance Company has estimated that the total capital value of the lives which can be saved annually by the application of modern preventive medicine and public health measures is over \$6,000,000,000." This is an estimate of what might be. We should be on surer ground if we calculated the value of work actually done. What is the cash value of the fact that the average expectation of life has been increased by more than fifteen years in the last two generations? In 1910 the death rate from tuberculosis in a certain group of states was 164.7 per 100,000. By 1925 in the same states medical science had cut this rate in two—there were only 82.9 deaths from tuberculosis per 100,000. Balance the epidemics of typhoid in the Spanish War against the practical immunity from this disease in the World War. A quarter of a century ago, one out of every six babies died before its first birthday; now death takes only one in fourteen during the first year.

For such service few will haggle over price. The real problem is, Who bears the cost? At present no trustworthy figures are available. Very roughly we may say that the rich pay a great deal more for the medical care they receive than

the service costs. The great mass of the people pay more than they can afford, but less than the service costs. The very poor receive expensive treatment and pay nothing. It seems probable, although precise figures to prove it are lacking, that the amount which the American people pay out of pocket as individuals for medical care is considerably less than the actual cost of the service they receive.

The difference is made up from three sources—drafts on the tax fund for public health service, the beneficence of individuals who endow hospitals and the generosity of the medical profession. No other profession gives the public so much unpaid service.

A committee on the cost of medical care has been organized under the chairmanship of Dr. Ray Lyman Wilbur, the Secretary of the Interior. It is not so much a question of the amount as of the distribution of cost. We, as a nation, demand the best medical care available. We are rich enough to pay for it. The problem is not how much, but who pays. It is to be hoped that when the committee has finished its studies it will be able to tell us how much of the cost of medical care is borne by the patients. How much is borne by the community? How much is met by philanthropy? How much is scratched off the doctors' books as bad debts? Not till we know how this cost of medical care is apportioned can we hope to solve the problem.—New York Times.

POVERTY HINDRANCE IN HEALTH WORK

Health progress is definitely impeded by the financial situation in 15 per cent., or more than one-sixth of the families visited in the past year by health workers of the Cattaraugus County Demonstration, said Dr. Reginald M. Atwater, the county health officer, at the session here of the New York Health Conference. The actual cost, not only of getting medical attention for the sick, but of carrying out steps recommended to prevent the occurrence of sickness is affected by the economic situation in very many families. It costs money to stay well. Adequate food, periodic medical and dental examinations, fillings for decayed teeth, removal of diseased tonsils, inoculations to protect against disease, must be paid for. The

cost of sickness-preventing measures recommended by health agencies is beyond the means of the family in many cases.

Both social service worker and nurse have helped the families handle this situation in Cattaraugus county, Dr. Atwater explained. These social workers and nurses have helped budget the family income so it would include the cost of health measures. In some cases they have enlisted aid for families whose budgets could not be stretched to include the new items. Thus they have taught the people what they need to maintain and have backed up health education with practical service on how to pay for health protective measure.—Science Service.

THE EARLY DIAGNOSIS OF UTERINE CANCER*

FRANK C. WITTER, M. D.**

DETROIT, MICHIGAN

With all the present day propaganda concerning cancer, there is just one factor of extreme importance which must be thoroughly developed before there will be any appreciable reduction in the mortality rate of this dread disease. This factor is—*early diagnosis*. Before this can be accomplished, two things will be necessary: First, all women must be educated to the fact that careful examination by a competent examiner every six months is required. Second, the family physician must be taught to recognize early cancer—and by early I mean before metastasis develops.

The gynecologist or surgeon does not, as a rule, get to see these cases early enough and it therefore becomes necessary for the family doctor to be able to differentiate a beginning cancer from a case of ectropion, or one of simple ulcer, etc. It naturally follows that if one could see cancer each day, he would soon become adept at passing judgment.

The figures presented here represent the occurrence in the ordinary run of general admissions in a small general hospital of about 125 beds and covers a period of seven years, with 26,700 admissions. Among this number there were 60 cases of uterine cancer. (Counting the original entry only, as many made repeated visits.)

So it is really not surprising that there is still difficulty for the general practice man to make early recognition possible. He really sees comparatively few cases in a year.

This, then, is the real incentive for this report. If it will result in clearing up some cloudy ideas on the subject, it will have accomplished its purpose.

Cancer of the cervix comprises about one-third of all types of cancer. What proportion of these cases do we see early enough to do any permanent good?

(a) Originating from the mucous membrane of the cervical portion of the uterus, we find variations of two main types of cancer:

1. Squamous celled from the vaginal portion which is lined by flat pavement epithelial cells.

2. Adeno-carcinoma from the tall columnar cells lining the cervical canal, as well as the glandular portion of the cervix.

(b) From the fundal portion of the uterus, adeno-carcinoma develops from the

glandular mucosa which is also of columnar cell type.

Polypi which may be simple, benign, or malignant affairs, may arise from the uterine interior and present at the external os, or they may remain hidden in the lumen. These polypi may at first be benign and undergo secondary sarcomatous or carcinomatous changes, or they may be carcinomatous or sarcomatous at the beginning.

(c) Occasionally malignant changes occur in retained membranes following abortion or secondary sarcomatous change may occur in a uterine fibroid. However, the cervical type of cancer is vastly the most common and is, fortunately, visible in most instances to the naked eye from the beginning.

The squamous celled cancer *may* take the form of a small rodent ulcer and in this variety is not very dangerous, having about the same characteristics as a rodent ulcer on any other portion of the body surface. It *may* become a rapidly eroding excavating agent of destruction that quickly obliterates the entire cervix and metastasizes to outside parametrial structures and beyond. It may develop a vegetative or proliferating habit, extending downwards into the vaginal canal as a crumbling cauliflower-like mass, bleeding easily to the touch.

Diagnosis—Early cancer of the cervix must be differentiated from ectropion simple, ectropion with erosion, (ulcer), simple papilloma, simple hypertrophy, degeneration cysts, (Nabothian follicles), irregularities due to contractile changes in scars following stellate lacerations.

Early Symptoms—By far the most frequently encountered symptom is some irregularity in menstrual blood, manifested by:

1. Slight prolongation of a normal period.
2. Duration normal, but flow more profuse.

* This paper was presented to the Section on Gynecology and Obstetrics at the Annual Meeting of the Michigan State Medical Society held in Detroit, Thursday, Sept. 27, 1928.

** Dr. F. C. Witter graduated from Medical Department, University of Michigan, 1906. Was in charge Department of Gynecological Pathology, 1906-1907. Instructor in Obstetrics and Gynecology and Clinical Hospital. Chief 1909. Member adjunct staff, Harper Hospital. Chief Surgical Division, Highland Park General Hospital. Fellow-American College of Surgeons.

3. Flow appears every two or three weeks.

4. Flow regular, but intermenstrual spotting.

5. Showing of blood following exercise.

6. Bloody show after intercourse.

From these early symptoms the bleeding increases to the constant show or profuse flow of advanced cancer.

The second most frequent symptom is pain. In a certain small proportion of cases it may be the only complaint and is usually referred to as a dragging pain in the back, or pain low down in the pelvis with occasional pain radiating down the inside of the thighs. This latter complaint usually is from fairly well advanced type.

Discharge—Occasionally an unusual discharge will be the first symptom. This is not described as foul—that term applies to a more advanced state. This discharge may appear as a whitish leucorrhea, or perhaps be slightly brown in color. It may be watery and thin, not copious at all, but just enough for the patient to notice.

Appearance—Women who have borne children usually have a more or less lacerated cervix. Especially if the laceration is bilateral, there results a pursing out of the lips or "eversion". As the lips roll outward, the columnar epithelium lining the vaginal canal is exposed about the os and appears as a reddened, and, depending on the condition of the membrane, more or less granular area—varying in size with the extent of the laceration and eversion and the amount of membrane of the canal that is exposed. This is the so-called "ectropion" and is frequently diagnosed as ulcer and treated for months as such. It is not an ulcer, as there is no loss of surface. However, due to a change in habitat or normal surroundings, this columnar type of mucous membrane is now without its normal protection, previously enjoyed by being inside the cervical canal; it is now outside and is exposed to vaginal secretion and infection for which it is not adapted. Consequently, a true ulcer may develop with loss of the continuity of the mucosa, and right here is where so many cancers originate. They may be small, no larger than a dime, but a sharp scrutiny will show a slightly elevated margin with a rather coarse granular appearance, having a suggestion of a grayish film covering the area, most marked at the borders. It bleeds easily when sponged lightly with a cotton pledget. There is no pain. With an ulcer there is no elevation of surface on close inspection, but the eroded area

may resemble in appearance the grayish coloring of the early cancer. The granular appearance is more marked in cancer and the outline of the edge is not as smooth and regular as in ulcer.

The complaint is only of an occasional bloody show, perhaps between periods or after intercourse, noticed for a period of only a few weeks.

Differentiation from a syphilitic or tuberculous ulcer is easily made by the microscopic study of a smear or spread, and the rapidity with which they heal under specific treatment. Do not make the common mistake of treating an ulcer that proves stubborn. An ulcer that does not show a marked improvement in two weeks should be considered suspicious. The ordinary ulcer will heal after cauterization and proper cleansing after attention. But be sure you have a true loss of surface before treating it as an ulcer.

Perhaps, on inspection, after a similar history of occasional "show" we find a small, warty excrescence, eccentric to the os. It bleeds on being gently brushed with a cotton applicator. Snip it off, cauterize the base, preferably with the high frequency current, but lacking this, silver or pure phenol will do, and subject the specimen to a competent pathologist.

Perhaps we are not fortunate enough to find anything wrong on careful inspection of the cervix and there is no blood issuing from the cervical canal. But the complaint is the same (a discharge) with perhaps a hint of pain low down in front. Careful palpation of the uterus for contour, firmness, size and motility with special attention to the cervix, is essential. It may be slightly enlarged, or it may be somewhat nodular, firmer than normal, and motion may be slightly limited.

Cystic degeneration of the cervical glands (Nabothian follicles) are easily ruled out, but cancer in this portion of the uterus is hardest of all to diagnose early and is perhaps the most dangerous, as it may become advanced before being recognized. As the cervical glands lie in dense tissue they are not always reached by the diagnostic curette. If no simple cause for the symptoms can be demonstrated, a Sturmdorf procedure should be carried out, if for nothing more than a definite diagnosis. This type of case has a greater tendency for discharge and is more frequently mistaken for a simple leucorrhea than any of the others, and to my mind, presents our greatest problem for early diagnosis.

Polypi—These growths produce bleeding and discharge, but rarely pain. When they present at the external os, the diagnosis is easy, but when hidden inside the uterus, the curette or a vaginal hysterotomy become necessary to establish a definite diagnosis.

Cancer of the fundus arises from the mucous membrane, which is glandular in character. Consequently, they are of the adeno type. Bleeding or watery discharge is the first symptom and the bleeding may make its appearance in any of the first five ways previously described. Early diagnosis can only be made by diagnostic curettage and careful examination of *all* the removed tissue. The same method of diagnosis holds true in cancer developing in retained fetal membranes. We have a different story here in the history which should make us especially watchful.

Uterine Sarcomata—This tumor being of the type springing from connective tissue, frequently complicates the diagnosis of polypi and any of the other types of uterine fibroids. Their occurrence is not common and they are only recognized early by the pathologist after their removal to relieve bleeding. I have not gone into detail of the other causes of uterine bleeding as they naturally come out in the process of eliminating cancer of the non-visible portion of the lining mucosa.

Retained membranes, polypi, hypertrophic, spongy mucous membrane, circulatory disturbance, etc., are diagnosed with the curette. Fibroids, by careful bimanual examination, ovarian dysfunction by careful history, observation and proper ovarian therapy. We must not lose sight of the fact, also, that bleeding during pregnancy is not always placenta previa. It may be a cervical cancer.

In this series of 60 consecutive cases, all types are presented and at all ages. A family history of cancer in eight. Early diagnosis in seven (including those diagnosed by the pathologist). Two instances with patients past 80 years of age. One case with simultaneous fibroids and cancer. One case of pregnancy, complicated by cancer. Of 10 patients who complained of pain alone, four were past the menopause; a fifth had a supravaginal hysterectomy at 27 years for pelvic inflammatory disease, returned in two years with cancer of the stump.

Of the five who had not reached the climacteric, the pain was located in the back and described as "dragging," and also in

the abdomen low down in front. One of these had a whitish leucorrhoeal discharge without odor for nine months, antedating pain by five months, no bleeding. Another patient who had hysterectomy and supposedly total by coning out the glandular portion of the cervix from above, returned in 16 months with squamous carcinoma of the cervical shell. Still another had been flowing for 11 weeks with pain in lower abdomen and dull backache. Examination by inspection revealed on erosion of the cervix with profuse leucorrhea without foul odor. Malignancy was not suspected and a Sturmdorf removal of the cervix was done. The microscope revealed early adeno-carcinoma, limited to a small area of the glandular tissue, at the site of the ectropion and erosion.

If you belong to the era that taught the classical symptoms of uterine cancer to be hemorrhage, pain and foul discharge, just forget it—even the next-door neighbor knows they have cancer and have had it for some time. Our text books used to show us (and they still do) many striking pictures of crater-like cervixes, large cauliflower masses projecting into vagina and fundi filled with adeno-carcinoma, infiltrating the walls of that organ. We don't want to see these any more. What we do want is information on early appearance. When is an ulcer becoming malignant? How long should we treat ulcer before becoming suspicious? Are we dealing with a simple ectropion or early carcinoma? How can I diagnose cancer when pain alone is the chief complaint?

Demonstration of slides:

RECAPITULATION

To recapitulate somewhat.

1. The earliest symptom of uterine cancer is usually a slight irregularity in the menstrual blood, or the appearance of blood at times other than at the menstrual cycle. Occasionally pain may be the prominent symptom.

2. The vast majority of uterine cancers arise from the visible portion of the cervix and can be diagnosed early.

3. Age is not respected by cancer. The period from 40 to 50 years shows the greatest frequency of occurrence.

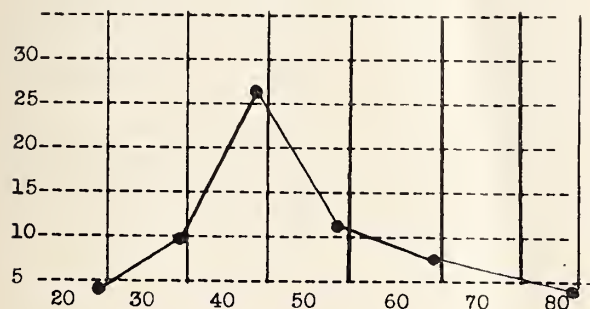
4. Anyone can diagnose advanced cancer. We must educate our women to present themselves regularly at least twice a year for examination.

We must look to our own laurels and be able to tell early cancer when we see it.

Complaint	20-30 yrs.
Bleeding only	1
Pain only	1
Bleeding with pain	1
Bleeding and pain and foul discharge or watery	1
Bleeding and discharge or watery	0
Pain and discharge or watery	0
Total	4

30-40 yrs.	40-50 yrs.	50-60 yrs.	60-70 yrs.	70-80 yrs.	80+
2	9	3	1	.....	.....
1	5	3	0	.....	.....
2	6	1	2	.....	.....
3	3	3	2	.....	2
1	2	0	2	.....	.....
1	1	1	0	.....	.....
10	26	11	7	.....	2

No age free from cancer. It occurs most frequently during the years embracing climateric.



TOTAL NUMBER OF CASES UTERINE CANCER—
ALL TYPES—60

Age Incld.	No. of Cases	Per cent	Early Cervical	Advanced Cervical	Early Fundal	Advanced Fundal	Adeno Carc.	Sarcoma
20-30 yrs.	4	6.6		4				
30-40 yrs.	10	16.6	1 AD. 2 SQ.	9			1	
40-50 yrs.†	26	43.3	1 AD.	20 SQ.T.			1	2 Polyps.
50-60 yrs.	11	18.3	2 BC.	7 SQ.T. 5 SQ.		2		
60-70 yrs.	7	11.6		1 AD.		1		
70-80 yrs.	0	0						
80 and over*	2	3.3	1	1		1		

* One patient of 81 years had simultaneous multinodular fibroids and edeno-carcinoma, considered inoperable when first examined. Radium followed by pan-hysterectomy 2 months later. Without further treatment she lived 6 years without recurrence.

† One patient of 46 years with cervical cancer carried a pregnancy to 8 months. Delivered by Caesarean section with immediate hysterectomy in 1922 and is still alive.

DISCUSSION

Dr. Howard Cumming (Ann Arbor): Dr. Witter has brought up a subject that we need to review annually or perhaps semi-annually. The vast majority of our profession is convinced that cancer is a hopeless situation so why worry about it. You should make them comfortable and then let them die. You may be surprised at that statement but really that is the attitude of a large majority of our profession unless they are doing special work in this line. I am convinced that the laity feel the same way about it. We have a vast amount of educational work to do before we are going to have co-operation among the laity and the doctors. I think we should start with the doctors first in the annual papers and they will help. Dr. Witter has mentioned the type of carcinoma that we frequently see in the cervix. Within the past five years a great deal of work has been done on the cervix. Sturmdorf's papers and others who have used his method in various forms to cure ectropion and erosion of the cervix or endocervicitis have brought to the attention of the people that much can be done to relieve leuc-

orrhea. While the doctors are inspecting these cervixes and treating them with these methods and discarding the old methods, they might go a step farther and make a thorough examination of these eroded cervixes, these infected cervixes.

There is one thing that is very important. If an area on a cervix looks suspiciously like cancer, or you have the least suspicion that it may be cancer, do not be satisfied with just a superficial curettage. If you should take a few cells off the top of this area and send it in to a pathologist there is no pathologist who will tell you that is or is not cancer. You must get some of the underlying area. After all, the picture is that of normal cells that have eroded their basement membrane and gone into the deeper structures.

It is very important, if you are going to investigate one of these areas, to get some of the deeper tissue either by curettage or excision. Dr. Witter said many of these cases are found by the Sturmdorf operation. That is true. It is frequently done on the badly eroded and infected crevices. We should attempt to have the profession remove all the tissues examined. You would be surprised at the number of men who do the operation by taking out scarred tissue or attempt to do the Sturmdorf and throw the tissue away. I am sure they miss many cases of early carcinoma.

Dr. Alexander M. Campbell (Grand Rapids): I simply want to express my appreciation of the paper. I am endeavoring in my part of the country to accentuate the necessity of the doctors examining the patients. I agree with everything that has been said and I think these papers are most valuable.

Dr. James E. Davis (Ann Arbor): I regret not having heard the paper. Therefore, I must discuss the subject in a broad way. In the tissues that have come to me for pathological examination I have found that the most frequent mistake made in the clinical diagnosis is that of mistaking erosion when it exists with retention cyst formation. The red appearance with the bulging cysts appears to give a clinical picture that is not always easy to definitely differentiate from a real cancerous growth. The differentiation with the microscope in these cases, I think, is usually quite easy. I agree with the last speaker in saying that all tissues removed from the cervix should be submitted to a very careful microscopic examination. I want to say just a word about the microscopic examination. A great deal may depend upon the sections to be examined. Here is where considerable experience is of very great value. One should select more than a single section. In biopsy sections the responsibility rests almost entirely upon the clinician unless he invites for consultation with him the pathologist.

As to the broad question of early cancerous changes, or the recognition of tissue when it is in a pre-cancerous stage, I do not know what a pre-cancerous state means. I do not believe anybody else knows. We do not know, yet, what is the cause of cancer other than to say that it is a condition that results, as far as we know, in most instances from long continued, uninterrupted irritation, giving the cells no chance to recuperate from irritation.

Dr. Robert T. Morris (New York): Two of the hospitals with which I am connected in New York—Fifth Avenue and Broad Street—make it obligatory—mandatory—to send any pathological tissue to the laboratory. That belongs to their routine.

During the past year I have had my attention

called, a week or so after the operation, by the pathologist, to a beginning cancer of the prostate. A few epithelial cysts were there which I had not suspected. I have had my attention called to epithelial cysts on the tissue of the cervix which I had not suspected the presence of, beginning cancer.

It is because of the obligatory rules in both of these hospitals that that was discovered.

REPLY TO DISCUSSION

Dr. Frank C. Witter (Detroit): There isn't very much to say. Dr. Davis has told us there is no pre-cancer stage. There certainly is not. As far as we have been able to demonstrate in the clinic, that is true. My object in this paper was merely to drive home the fact that we must recognize some of these early appearances which later are so prone to develop into cancer, as being possibly of a pre-cancerous status and not to treat these things with tampon. Tampon never cured a cancer and never will. It cures very few ulcers. too many of these early diagnoses are made in the laboratory not by the clinician. Not until we

begin, as clinicians, to make the diagnoses in our offices or in the hospital on examination will we begin to make an appreciable reduction in the mortality of cancer of the cervix. As I said awhile ago, that represents about one-third of all types of cancer. Cancer of the cervix is visible in most instances in its early stages. There must be some representative change in their appearance if we could see them often enough to be able to recognize some individual change which was of the earliest type and be able to make a satisfactory diagnosis from that standpoint.

Not only that, but before our mortality rate will be reduced a great deal this program of education will have to be greatly improved. We are only scratching the surface. The women must be taught to come to the office for examination at regular intervals and the doctor must be taught what an early cancer is when it has left the ulcer stage.

That is the only thing I am trying to get over. The next slides I had, which you haven't seen, had some histories connected with them. I am sorry I didn't have the time to give them to you.

ALCOHOLIC INSANITY ON INCREASE SINCE PROHIBITION

Since prohibition there has been a continuous increase in the number of patients, insane from excessive use of alcohol, admitted for the first time to the hospitals in New York state, Dr. William C. Garvin, medical superintendent of the Binghamton, N. Y., State Hospital, declared before the American Psychiatric Association. The lowest admission rate occurred in the year ending June 30, 1920, the year prohibition went into effect. The peak was reached in 1927. Dr. Garvin also stated that the patients entering recently have been more actually ill than those coming to the hospital before prohibition. He said that patients, owing to the character and quantity of the liquor imbibed, appear more poisoned; there is a greater degree of prostration than formerly; confusion of the mind is more often present; and patients are more often delirious. Recovery is slower, but is also more complete.

"Government analyses show that the most of the hard liquors furnished by the bootleggers are obtained from re-distilling methyl spirits, and that it is practically impossible for the ordinary bootleggers who distill to remove all the noxious ingredients. A surprising number of recoveries take place despite the quality of the liquor drank.

This is probably due to the fact that they are not able to drink liquor so chronically poisoned."

Dr. Garvin expressed the belief that prohibition will never abolish the liquor traffic. He said:

"As a people, we are inclined to emotional crises, sentimentality, and to believe that the passage of a law is all that is necessary to remedy conditions and to bring about human betterment. More drastic laws have recently been promulgated in order to punish more effectively violators of the national enactments. Whether they will prove successful remains to be seen, but it is highly probable that those individuals who have been accustomed to drink liquor and have the price to purchase it, will, for the most part, continue to do so. When the profit is sufficiently attractive the illegal seller of illicit liquor will take a chance, and the purchaser will salve his conscience, if he has any scruples, by various methods of rationalization familiar to all."

Alcoholic insanity, as a rule, occurs principally in middle age following years of intemperate use of alcohol, but the acute phase generally develops in connection with recent excesses.—Science Service.

TEMPERAMENTS OF TUBERCULOSIS PATIENTS CHANGE, TEST INDICATES

Tuberculosis patients are inclined to prefer solitary amusements and pursuits, particularly in early stages of the disease. Those who have become bed-ridden are more generally eager for social contacts. This new angle on the mental tendencies that link with physical disease was presented before the American Psychiatric Association by Dr. Clarence A. Neymann, of Chicago. It has been a general presumption among physicians that patients suffering from pulmonary tuberculosis in its various manifestations were happy, cheerful, and if anything rather elated individuals, the psychiatrist said. This would place them in the personality class known to psychiatrists as extrovert or social-minded.

Dr. Neymann gave 300 tuberculosis patients

in a sanitarium a test including such questions as: do you like excitement, like to be alone a great deal, enjoy social gatherings just to be with people, like to do the things you dream about? The test showed that 46 per cent of the patients were introverts, that is, they preferred being alone and were more absorbed in themselves than in the world about them. Thirty-nine per cent were classed as extroverts, the remainder were in the neutral class, in which social and solitary traits are fairly balanced. Interest in other people and activity was much more marked in the bed-ridden patients, possibly because their long confinement made them turn toward the desire to go out and have a good time.—Science Service.

THE TREATMENT OF ABORTIONS*

BASIL L. CONNELLY, M. D.**

DETROIT, MICHIGAN

When I began the study of gynecology, I was impressed by the large number of women who were presenting themselves for treatment of abortion. Not only was I impressed by numbers, but also by the varied ideas, methods, and results of the treatment. I found myself in a state of confusion and perplexity, and to clarify the situation in my own mind, I searched all available literature for enlightenment, and finding none, I determined to investigate the subject. This research has continued over a period of seven years, and my series now shows over a thousand cases.

Now, for the sake of brevity, I am going to omit the voluminous statistics, compiled in this series, and give you general statements of my findings. At a later date, when I feel confident that my contentions have been proven or disproven, and I have the compiled results of others who have tried these procedures, then I will present in detail the results of the research.

To begin with, the treatment of abortions can be classified under three different headings:

First—The non-manipulative method.

Second—The procedure in which some form of curette or instrument is used.

Third—The digital removal.

The first classification contains one-third of the series. In this group, rest, sedative drugs and position were used.

Upon first seeing a patient at the beginning of an abortion, if bleeding is present, the usual procedure is to elevate the foot of the bed. This was tried with what, to me, seemed a very unusual result. The majority of cases in which this procedure was tried, continued to bleed, passed clots, and eventually the products of conception.

A second group, in which the patient was allowed to remain flat, gave a result that was comparable to the first series.

In a third group, the head of the bed was elevated about eight inches. The outcome of this procedure showed that the majority of cases promptly stopped bleeding, and the pregnancy was retained.

In all three groups, the usual sedative drugs, bromides, chloral, codein and morphine were used, together with soft or fluid diet, until all bleeding had stopped. No catharsis was used at any time.

Those cases in which the head of the bed was lowered, showed that one out of thirteen retained their pregnancies. In those where the patient was allowed to re-

main flat, one in three left the hospital with the pregnancy intact. In the third group, in which the head of the bed was elevated, more than one-half of the cases retained their pregnancies.

From these results, it would seem, then, that if the patient is to remain at rest, the logical procedure would be to elevate, rather than to lower the head of the bed.

For the results, I have attempted an explanation. When the head of the bed is lowered, the blood to be expelled must counteract the force of gravity. The uterus thus fills up with blood, which clots and acts as a foreign body. The uterus then contracts forcibly and expels the clot and very often the pregnancy. If the head of the bed is elevated, the cervix is much lower than the fundus, and the blood is promptly drained out before it clots. As a result of this, the uterus does not forcibly contract, and regains its normal tone. When it regains its normal tone, the partially detached placenta or decidua presses over the bleeding area, and thus acts as a natural pack.

The second classification consists of all the cases in which some type of curette, scoop, placental forcep or screw was used. In this group are slightly over half of the entire series.

The preparation for operation of all these cases was the same. The pubic and vulvar hair was shaved off. The thighs, pubes and vulva were scrubbed with soap, water and alcohol. The vagina was also scrubbed with soap, water and 40 per cent alcohol, and any clots in the vagina were removed. The vagina was again filled with 40 per cent alcohol, which was allowed to remain while the patient was being draped. The operative method was that in general use.

Under the second classification, one-fourth of the cases operated were not packed (all cases not packed received 1 to 2 c.c. of pituitrin or ergot by hypodermic injection). Some of these cases we tried

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douching with alcohol, saline, bichloride of mercury and other solutions. Others were treated by swabbing the uterus with iodine, mercurochrome and other antiseptics. My results show conclusively that intra-uterine infection is very common following douching with any solution. Those cases which were swabbed show that 7 per cent iodine gave the best results.

The remaining cases in this classification were all packed with some type of gauze packing. Gauze saturated with alcohol, iodine, iodoform, mercurochrome, acriflavine and gentian violet were used, together with plain sterile gauze. In this group we found that infection was practically eliminated when the iodoform pack was used. The various packs in the order of efficiency are the iodoform, the iodine, the alcohol, the mercurochrome, acriflavine, gentian violet and the plain pack. In the cases not packed, I found 8 per cent developing an infection. In those cases packed, the infection was approximately 5 per cent. These results show, therefore, that packing following instrumental removal of retained material is preferable to non-packing and the packing of choice should be the iodoform gauze. I also found that under no circumstances should packing remain in over 24 hours.

The third classification is that in which the digital method of removal of retained material was used, and consists of 12 per cent of the entire series. In this group, the cervix was sufficiently dilated to allow the finger or fingers to be inserted into the uterus. The above described preparation of the patient was used. With the finger the adherent tissue was carefully detached and removed. One-third of these cases had to be packed because of bleeding. Again I found that the most efficient pack was the iodoform gauze. In the majority of those remaining in this group, the uterine cavity was swabbed with one of the various antiseptics. The 7 per cent iodine proved to be the most efficient.

The mortality rate in the entire series is 2.5 per cent. One-half of those who died were comatose when first seen, and no operative procedure was attempted in any of these. The remainder died as a result of infection following spontaneous abortion or operative procedure.

There are other phases of the treatment of abortion which should be considered. Septicemia does occur and must be treated. Here again we face a great variety of ideas and methods of treatment, with a uniformly discouraging result. It

is difficult to prove that a case is a true septicemia, because of the fact that the blood cultures are not taken at the exact moment when the bacteria are in the blood stream. In this series, blood cultures were made in all suspected cases of septicemia, and in only a very small percentage was I able to obtain positive cultures. From these proven cases I obtained a fairly accurate knowledge of the clinical picture of septicemia.

The clinical and the proven cases were used to try out various drugs which are supposed to have some effect in ridding the body of bacteria. Varying dosages of mercurochrome, electrargol, phenol moniodide, gentian violet, acriflavine and neosalvarsan were used with very little effect on the disease. Stock vaccines and immunogens were likewise ineffectual. So far I have found nothing to offer for the treatment of septicemia. Here I am placing before you a fertile field for research.

Sapremia, to the untrained, presents a picture comparable to septicemia, but they are two definite clinical entities. The treatment of sapremia is very simple. Usually dilatation of the cervix without anesthesia is all that is necessary. At times, however, a curettage must be performed and this usually can be done with very little risk. In the sapremic cases, I found that electrargol was of value. It brought the temperature to normal within 36 hours, and seemed to have some effect on the expulsion of any retained material.

Pelvic cellulitis, following abortion, is a difficult condition to treat. I found the best method to be absolute rest, frequent hot douches, and continuous hot packs over the lower abdomen, together with morphine, sufficient to keep the patient quiet. In a number of these cases an endeavor was made to puncture into the base of the broad ligaments, near the uterus, if it were certain that an abscess was forming. This was very difficult and there was constant danger of opening into the peritoneal cavity or of rupturing the uterine artery or veins. If pelvic peritoneal abscesses developed, the usual cul-de-sac drainage was performed. In general peritonitis, the Crile method of treatment was followed. The patient was put up in Fowler's position, morphine was given in dosage sufficient to lower the respiratory rate to 10 per minute, hot packs were placed over the entire abdomen continuously, and hypodermoclysis was given every eight hours. These methods of treat-

ment I have found to be most satisfactory in the pelvic and peritoneal infections.

In conclusion, my results show that the best method of treating abortions, if the patient is bleeding and no tissue has been passed, is to elevate the head of the bed, put the patient to rest with sedative drugs, and liquid or soft diet. If a patient has already passed some tissue, then evacuate the uterus and pack with iodoform gauze.

If I have to any degree stimulated your interest in this subject, which is constantly before us, disagreeable though it is, and have caused you to pause and think about your own method and its possible faults and good points, and have stimulated your interest sufficiently to try other methods, then this work of mine has not been in vain.

DISCUSSION

Dr. W. P. Tew (University of Western Ontario, London, Canada): I think this is a very delightful paper. I want to congratulate Dr. Connelly on the presentation. It is very splendid and dovetails into most of our ideas on the treatment of this rather common malady. I think, with very few exceptions, our teaching is very similar to what Dr. Connelly has outlined in a very brief manner. First of all, I would like to direct attention to the causes of abortion. Primarily, we have three common causes of abortion. Firstly, death of the fetus. Secondly, hemorrhage in the placenta itself. Thirdly, stimulation of the so-called uterine center. Those are the three primary causes. One of those three things must happen, or the combination of the three, before we have an abortion. It is difficult to say just which one, or which combination, is working in any individual case. Irrespective of them, your line of treatment, I think, was very good. There are one or two points that I want to mention. If you are sure that the patient is aborting and is not a threatened abortion, and that is the type of case you are dealing with in douching, I think that is a point that is debatable. In the early stages I think the patient is better left without any douching until you make sure where you are. Packing with iodoform gauze is a splendid procedure and we get excellent results with the iodoform gauze. It is an old, reliable form of emptying the uterus and keeping it clean. Infection here usually follows because of dead material left in the uterus. It is primarily a sapremic condition unless the patient is traumatized. If she is traumatized it is more liable to be a septicemia.

The removal of that dead material that does not come away of itself is probably the only point that I was not clear on and might have to take issue with. I do not think that we should do that, usually in any septic uterus. You have a focus of infection that you cannot see and you are using a sharp instrument to tear it away. Nature has put in an area of round-celled infiltration walling it off. You scrape it away in an area you cannot see. What do you do? You remove some of the dead material and you paste it all around the uterus and open up fresh channels of infection.

Some of the saddest results I have seen have

followed curettage in septic abortions. Our teaching is to leave the curet locked up safely at home in all cases of septic abortions. Afterwards, when the temperature dies down and the patient is still bleeding, she may require a cleaning out. That is a different problem.

Dr. Andrews (Kalamazoo): I would like to ask Dr. Connelly, or Dr. Tew, if they have, in the cases of abortion in which a slight amount of material has been passed without temperature, attempted to use pituitin to empty the uterus without any mechanical interference.

Dr. E. B. Anderson (Grand Rapids): I have enjoyed this presentation very much, by Dr. Connelly. I think he should be credited with good observation on explaining the position of the uterus in the sitting position of the elevated head of the bed.

I would like to ask him if he has had any experience using the hydrostatic drip in the case of septicemia. For a couple of years in Grand Rapids a few of us have tried the full strength sterile glycerin dribble into the uterus with the idea that it produces drainage from above, down. We have been surprised to get rather remarkable results in some of the localized septicemias.

Dr. George Kamperman (Detroit): I want to take up one point that he mentions and question his explanation. Dr. Connelly brought out the point that in threatened miscarriages he thought results were better with the head elevated than with either of the other two postures. I do not know whether we can take that conclusion too seriously, or whether it might be mostly coincidence. I think a great many of our statistics are oftentimes compiled on rather short series of time, and are rather coincident. For instance, in the last A. M. A. Journal there are two papers taking up the question of mercurochrome disinfection of the skin. One man, after careful research, decides that mercurochrome is the best. Following that is another paper in which they decide that it is the worst. Both have statistics to support it.

I would rather question whether or not Dr. Connelly's findings might be more or less coincident. The thing that I want to question is his explanation of why the head elevated is less likely to bring miscarriage. He said if the feet were elevated the uterus would have to expel the blood against gravity.

I just raise that question. I feel that Dr. Connelly has brought before us some very interesting questions, but I just wanted to question his explanation.

(Reply to discussion)

Dr. Basil L. Connelly (Detroit): At the beginning of the paper I think I made it quite clear that the results are merely those of a large series of cases in which we have been trying out all types of methods that have been suggested to us. Some of them we did try out with a great deal of fear, knowing that the results, or the teaching, regarding those procedures was contrary to what one would call good technic.

The causes of abortion are so numerous, and the things used to produce abortion are so numerous, that I could spend an hour or two telling you what we have found. It might be of interest to you to mention a few of the things that we have actually taken from the uterus. There was the business end of a tooth brush, nail files, orange wood sticks, button hooks and everything imaginable. There were bone knitting needles,

anything that might be used in producing an abortion. We have found a history of it being used or have actually found the instrument in the uterus.

We douched the uterus because we were advised that that was good procedure. We tried it out and very soon discarded it. I am not in favor of douching the uterus at any time. The douching that we used, following abortion, was used only when there was a definite infection present and the vagina was filling up with a lot of pus and degenerating materials. Regarding the question of removing dead material in an

infected uterus, I can name at the present time at least six men, reputable men, who believe that it is a good procedure to remove any retained material, no matter whether the uterus is infected or not. They advise using the placenta forcep, or one of the very blunt instruments, not the sharp curet. We have used pituitrin to empty the uterus from which some tissue has exuded. The pituitrin is not always effective. We have found that the salts of the heavy metals are just as effective. The work that has been done on cancer, the use of lead in cancer, seems to give us a clew as to why that is.

SOME OBSERVATIONS ON THE TREATMENT OF SURGICAL TUBERCULOSIS BY HELIOTHERAPY

A. B. OLSEN, M. D.**

BATTLE CREEK, MICHIGAN

Light therapy is a potent remedy and is capable of producing marvelous results in a large number of diseases when used intelligently and combined with other methods of treatment. Thirty-seven years ago Dr. John Harvey Kellogg of the Battle Creek Sanitarium, the pioneer of artificial light therapy, utilized electric lamps for the treatment of various chronic diseases. Two years later, in 1893, Dr. Finsen of Copenhagen, taught us the use of the open electric arc light as a cure for lupus vulgaris.

Sunlight treatment was advocated by Hippocrates, Celsus and Galen, but it seems to have fallen into disuse during the dark ages. Little is heard of heliotherapy until the beginning of the twentieth century when Dr. A. Rollier, formerly assistant to Theodore Kocher, began his monumental work in Leysin. His knowledge of pathology and his early training in surgery undoubtedly contributed much to his success in the use of sunlight for the treatment of tuberculosis of bones and joints and other forms of so-called surgical tuberculosis. He now has thirty-seven clinics or sanatoria accommodating about one thousand patients, with a staff of ten physicians and a large number of nurses and other workers.

Leysin is a charming Swiss village with houses scattered over the hillsides of a large valley at an elevation of from 4,000 to 4,500 feet. It is reached by a cog-wheel electric railway from Aigle. The mountain air is pure and clear and possesses a gentle tonic effect which adds to the efficacy of the treatment.

In 1910 Dr. Rollier started his "School in the Sun," for children of from five to twelve years of age, who are either threatened with tuberculosis or who already suffer from tuberculous glands. This out-door school or "Solar Preventorium," as he also calls it, is located at Cernat in the



Leysin in Winter.

Ormontes valley about two miles from Leysin. Here 45 delicate or sickly children renew their health by undergoing preventive heliotherapy, and at the same time go on with their school work.

A CONSTITUTIONAL DISEASE

Dr. Rollier¹ holds that surgical tuberculosis "in all its forms is primarily a general disease, whatever the seat of its local manifestations."

Sir Henry Gauvain², who is making a large use of heliotherapy in England, agrees that a tuberculous bone or joint lesion is an osteitis or arthritis occurring in a tuberculous patient, and not merely a bone or joint affection. He states that "a tuberculous lesion is but local manifestation of a more general infection. Probably few in any bone or joint lesions, clinically demonstrable, are independent of other

* Dr. Olsen graduated from the Medical Department of the University of Michigan in 1894; M. S. degree in 1895. In 1901 he attended Kings College Hospital in London, and also St. Bartholomew Hospital where he qualified for L. R. C. R., London; M. R. C. S., England, and later D. P. H. from Cambridge University, England. He is at present devoting his time to Internal Medicine with particular emphasis on neuropsychiatry.

lesions, which may be only discoverable *post mortem*, and general constitutional symptoms of infection are rarely difficult to demonstrate." This explains the emphasis laid on the importance of treating the entire body, that is, the patient as a whole, rather than the part alone which is directly affected.

Within recent years Dr. Rollier has been treating also lupus vulgaris, utilizing the same procedure as for tuberculosis of the bones. He has found this general sunlight application more successful in these patients than the Finsen treatment. Very chronic and obstinate cases of lupus, previously treated for years by the Finsen method as well as by other forms of treatment, yielded to heliotherapy.

ROLLIER'S METHOD

The Leysin regimen combines and coordinates the following forms of treatment:

Rest,
Sun-baths,
Air-baths,
A generous low protein diet,
Work therapy,
Psychotherapy, and
Correct posture and weight extension.

Rest usually includes both general bodily rest as well as immobilization of the limb or other part affected by the disease. To secure complete rest of the affected part bags of flaxseed or sand of various forms and sizes are freely used. Rollier³ holds that in surgical tuberculosis absolutely rigid immobilization is an error and that it hinders healing. Consequently he replaces "the unwieldy plaster cast with simple apparatus, which immobilizes the diseased articulation only, giving freedom to the other joints." Suitable weight extension apparatus to prevent shortening of the limbs is used, and every effort is made not only to encourage healing but also to secure as strong and useful a limb as possible.

AIR-BATHS

Much stress is laid upon the importance of the daily air-bath, that is, exposure of the bare skin to the open air, whether the sun shines or not. Fresh air is "a great healing force," but to be fully effective it must reach the uncovered skin direct. Too much clothing tends to weaken the body and lower its resistive forces. Dr. Rollier emphasizes the varied functions of the skin,—nutrition, elimination, circulation and innervation as well as protection. The skin weakened and atrophied by the abun-

dance of clothing, is invigorated and stimulated by direct contact with the open air and sunlight, its natural elements. This exposure restores the physiological functions which are so indispensable to its normal activities. In all parts of the skin are found terminal endings of the nervous system through which reflexes are established. Consequently, changes in the vast capillary network of the skin readily affect the general circulation of the blood. Through the skin we are able to influence the brain, heart, lungs and other internal organs.



Some of the Clinics, Showing the Verandas.

It is the experience at Leysin that exposure to the open air and skylight is only second in importance to the sun-bath. Therefore, carefully graduated air-baths are given daily all the year except when there is rain or snow falling. If the weather is cold hot water bottles are used freely to keep the patients warm and comfortable. The air- and sun-bath, to be effective in healing, should always cause a feeling of comfort. The exposures to the sunlight should never be prolonged unduly.

SUN-BATHS

Dr. Rollier² teaches that heliotherapy is a "return to the laws of nature, from which we are divorced more and more by our ultra-civilization and unnatural conditions of life." "The immutable laws of nature have, in fact, taught us that, to live and develop normally, air and sun are as indispensable to the human being as to the plant⁴."

At Leysin a definite system of gradual exposure to the sunlight is followed. Overexposure is guarded against in the early stages so as to avoid sunburn. "The principle consists in always beginning the sun-bath with the lower limbs, which are less sensitive. This course is in a way a means of testing the endurance of the patient, after which a proper course of sun

treatment can be settled on." This is important, for patients vary much in their reactions to light. They proceed "by graduated stages, increasing the exposure a few minutes each day, first the feet, then the legs, the abdomen, and the chest, the head remaining covered." On reaching the trunk more caution is necessary and the progress is slowed. Finally, in the course of a few weeks, the time varying with the reaction of the patient, the power of the sun, the time of the year and of the day, and sometimes other factors, pigmentation of the skin has taken place and the body can be exposed to the sunlight for several hours at a time. We are warned to avoid sun-baths "during the mid-day hours." This is particularly true of low altitudes "where the overheated atmosphere is weakening and causes congestion, undoing the good effects of the solar radiation."

NUTRITION

The typical tuberculous patient is pale, weak, emaciated and altogether sick. Consequently, nutrition is one of the important factors in the regimen, and it receives careful attention. In addition to the three regular meals, many of the feeble and undernourished patients receive milk or other food between meals, according to their need.

The low-protein diet as advocated by Dr. Hindhede, the famous food authority of Copenhagen, is followed. But on account of the prejudices of many of the patients, and especially of their relatives and friends, a little flesh meat of one kind or another is usually served once a day. The great bulk of the diet consists of fruit, vegetables, cereals and the dairy products, and the food is well but plainly cooked. The patients develop an excellent appetite, thanks largely to the out-door life and the sun-baths.

One would naturally expect to find constipation prevalent among patients confined to the recumbent posture and compelled to rest day and night for long months and even years. Constipation is, however, rare among these patients, and when present is readily remedied by some mild laxative such as mineral oil. Extremely little medicine of any kind is given at Leysin. The use of alcoholic beverages and tobacco is not permitted.

WORK THERAPY

"Work," according to Dr. Rollier¹, "is one of the essential conditions of a normal life." He writes: "From the very com-

mencement of our work we have made a systematic application of the work cure to bed-ridden patients suffering from surgical tuberculosis, both children and adults, and have found it a most valuable adjunct to heliotherapy. . . . Modern medicine has been guilty of grave error in condemning to prolonged and complete inactivity those suffering from a whole category of chronic diseases." Most of us will agree with this statement.

There must always be a tendency to homesickness, "blues" and despondency among patients who are obliged to look forward to a sort of imprisonment for many months or even years. They are liable to become "the prey of boredom, that 'disease of the will' as Vigne calls it."

To engage in some form of occupation is an inspiration and it soon becomes attractive to the invalid. Creative work has an encouraging and uplifting influence upon the patients and is undoubtedly a material aid in maintaining their morale. Leather work, wood-carving, weaving, book-binding, lace and fillet work, toy making, painting and many other varieties of work are taught to the patients by an efficient corps of instructors. The personal aptitude of each patient is consulted and his choice of occupation is followed as far as possible. It was a fine sight to see these cripples at work and to watch their deft fingers produce useful articles of many kinds as well as works of art. It was obvious that they found this creative work attractive and helpful in speeding the long hours of their convalescence, and it was with pride that they showed the various products of their skill and proficiency. Many of the poorer patients were able to earn a part of their weekly expense by their work. Twice a year sales are held and thousands of dollars are realized, all of which goes to the workers.

THE RESULTS

It was both interesting and instructive to follow Dr. Rollier from bed to bed and to examine the X-ray plates showing the progress of each patient, to examine the patients in all the various stages of convalescence, and to converse with those speaking English or German. Some two hundred patients of all ages from babies of two years to adults of eighty were observed, and their length of time under treatment and their progress carefully noted. All of the patients in the five clinics visited were steadily gaining in health and strength, and appeared to be in a cheerful and hopeful state of mind.

The effect upon the musculature is little short of miraculous. The flabby, weak, wasted muscles, in spite of the necessary immobilization and without any massage, increase in size and become firm and strong under the influence of the open air and sunshine. Dr. Rollier⁴ explains this development as follows: "Heliotherapy further exercises a remarkable action on the muscular system." "The general sun-bath by dilating the capillaries, determines a flow of blood from the depths to the surface through the muscular layers; it stimulates and regularizes the circulation better than the best massage and admirably restores the musculature. This restoration of the muscles is probably due to the continuous tonic action on the muscle fibre, consequent upon the vibratory shock which the solar radiations determine in the close network of sensory nerve-endings of the skin."

The air- and sun-bath together "constitute the most energetic of reconstituents. Further, the sun-cure realizes the perfect local treatment by virtue of the analgesic, bactericidal, alterative and sclerogenic action of the solar radiation."

"Heliotherapy," according to Rollier³, "fulfils all the conditions required of a treatment for tuberculosis, both general and local First there is its action on the skin, which gains in tone and pigment progressively when it is placed in immediate contact with the air and sun, its natural *milieu* Pigmentation confers a progressive resistance to heat and cold That the resistance of the patient is in proportion to his pigmentation is a fact of every-day experience, and pigmentation seems to act not only by protecting the skin against excessive irritation from the

ultra-violet rays, but also by regulating the heating effect of the sun. The biological value of pigment becomes every day more evident; very probably it receives, supplies and activates the essential elements of the hormones."

In Alton Park, in the south of England, Sir Henry Gauvain has about 300 patients, almost all children, afflicted with surgical tuberculosis, and, although the altitude is comparatively low and the climate less favorable for heliotherapy, still he gets good results by the combined use of sunlight and various forms of electric light. He too uses occupation-therapy. The writer practiced in England for many years and can add his testimony to the efficacy of both sunlight and artificial light in the treatment of the few cases of surgical tuberculosis that came under his care.

We may summarize these observations by saying that heliotherapy given skillfully and combined with rest, the open air life, good nutrition, and suitable occupation is the most successful treatment for almost all forms of tuberculosis. We might even add that this combination of treatment is well-nigh a sure cure if the patient is not already moribund. Much the same results can be obtained by the use of artificial light provided the same general system of treatment is followed.

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LIVER CAN COME BACK AFTER INJURY

Modern scientists are wondering if the ancients knew something of the so-called regenerative powers of the liver. There is the ancient myth of Prometheus whose liver, torn out by a vulture, grew in time to be torn out again on each succeeding day. Investigators at the Mayo Clinic and elsewhere have found that the liver has great powers of regeneration. It will not grow again every night. However, from 65 to 70 per cent. of the liver can be removed and the remaining portions will begin to grow larger. In six to eight weeks these overgrown portions will almost re-

place the lost parts. The practical application of these findings is in disease of the liver in man. Certain diseases destroy liver tissue but with this power of regeneration the patient with an injured liver can continue to live and in many cases to work along quite happily. It is hoped that by further work along these lines investigators will be able to protect the injured liver from further injury and thus to save life. Some of these life saving measures already are in use.—Science Service.

LIVER EXTRACT IN TOXEMIA OF PREGNANCY

In a group of 25 cases, A. M. Mendenhall and David L. Smith, Indianapolis, found that there was only one in which there was any strong evidence of real benefit from heparmone. It failed to stop convulsions; it failed to prevent convulsions, and it failed to relieve the general post eclamptic

symptoms, such as continued high blood pressure and albuminuria. In one case it failed to benefit the early toxemia of pregnancy. In view of their inability to demonstrate any benefits from heparmone in twenty-five cases, they have discontinued its use.—Journal A. M. A.

TREATMENT OF TROPHIC ULCERS BY ALCOHOLIC INJECTION OF THE BLOOD VESSELS*

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DETROIT, MICHIGAN

The first step made towards the surgery of the sympathetic nervous system was by Claude Bernard in 1851 when he observed that section of the cervical sympathetic caused vasodilation of the vessels of the ear of a rabbit, and that stimulation of the distal cut ends of the nerves caused blanching. Thus were discovered the vaso-motor nerves.

While the present development of the surgery of the sympathetic is due largely to the that John Hunter did a decortication of a work of French surgeons, yet it is recorded dog's carotid in an effort to produce an aneurysm. That is the first recorded er-arterial sympathectomy.

Lord Lister in 1858 performed an experiment which proved that the nerves to the blood vessels of the lower limbs run in or on the vessel when he severed all the soft parts in the leg of a dog and observed that there was no paralysis of the blood vessel walls and concluded therefore that the nerves run on the artery or less likely on the bone.

In 1906 Jaboulay endeavored to produce vasodilation of the foot in perforating ulcer by denuding the femoral artery and tearing away the nerve twigs observed coming into the artery. Leriche, in order to more completely interrupt the sympathetic fibers did a discortication such as Hunter had done.

Leriche thus describes his operation:

"The technic is to isolate the artery for a distance of 8 to 10 cm., fix the vascular sheath after dividing, to hold one part with a forceps and dissect off the cellular tissue either with knife or cannula round until there has been effected complete denudation of the vessel, which becomes greatly reduced in size. This brings no injury to the arterial wall. I verified this fact twice at four and eight months' interval."

Leriche has had success from sympathectomy in the following conditions: (1) Causalgia after war wounds; (2) certain painful crises preceding gangrene caused by obliterative endarteritis; (3) painful acroparaesthetic syndromes consecutive to bruise of finger, to wounds of hand, palm, or foot-sole; (4) in Raynaud's disease; (5) sometimes in cases of painful stumps; (6) in muscular spasm secondary to war wounds; (7) in trophoedema; (8) in trophic ulcers, but here the result may be temporary.

Effects of Leriche's Operation—Leriche finds that as soon as the adventitia is

pinched a contraction of the vessel occurs, its pulsation stops, and its size diminishes. If the cellular layer (presumably the tunica adventitia) is actually excised, the artery shrinks still more, to one-third or one-fourth only of its normal size. The contraction affects only that portion of the artery which is injured by the operation. It usually causes the pulse to disappear, but does not altogether interrupt the circulation. For some hours pulsation is imperceptible or feeble and the limb is colder than its fellow by 3 or 4 degrees Centigrade—a very serious consideration in cases of actual or threatened gangrene. After three to 15 hours entirely different symptoms supervene—namely, (1) an elevation of local temperature, amounting to 2 or 3 degrees in the affected limb, accompanied by a subjective sensation of heat; (2) an elevation of arterial pressure up to 4 mg. in the affected limb as compared with the opposite limb; (3) an increased amplitude of the pulse, as shown by sphygmographic tracings.

It is important to notice that after peri-arterial sympathectomy this vaso-dilator reaction is transitory. It diminishes about the fifth or sixth day and disappears in three to four weeks.

Leriche does not recommend the operation for actual senile gangrene and Matthey-Cornat gives as definite contraindications for it (a) circulatory insufficiencies of generalized senile arteriosclerosis with or without gangrene; (b) arterial thrombosis and obliterations. One of his reasons for this statement is the danger of the ischaemic period in gangrenous or pre-gangrenous conditions, and the grave risks in attempting to decorticate an atheromatous artery. This same writer had six deaths and forty accidents in five hundred cases.

In our experience and that of several other neuro-surgeons, the same results have been obtained by ganglionectomy or ramisectomy or the combination of a ganglionectomy and ramisectomy. Adson of

*Paper read before Muskegon Medical Society in December, 1929—by request of Muskegon Medical Society this paper is printed. It also appeared in The J. of the A. M. A. in March, 1929.

Neuro Surgical Service of Receiving Hospital and the Detroit College of Medicine and Surgery.

the Mayo Clinic often combines these with a decortication. While we have had very gratifying success with the ganglionectomy operation and with it in combination with a ramisectomy, and in no case have we included the peri-arterial sympathetomy with these measures; yet we have discarded the ganglionectomy in the neck in favor of a ramisectomy. In our work we have obtained the same results in the upper extremity by cutting the rami to the brachial plexus that we secured by removing the stellate ganglion along with the cervical sympathetic ganglia and chain.

In the lower extremity a lumbar ganglionectomy and ramisectomy has been used for vasomotor disturbances and spasticities but at present we cannot say that our results have been as gratifying as our method of choice—namely, alcoholic injection of the periarterial sheath.

The conditions in which we have used the alcoholic injections are (a) generalized senile arteriosclerosis; (b) varicose ulcers; (c) chronic indolent ulcers of unknown etiologic origin; (d) endarteritis obliterans; and (e) Raynaud's disease. The procedure is also indicated in (a) chronic arthritis deformans; (b) painful acroparaesthesia; (c) as a preliminary procedure to the amputation of an extremity for gangrene in that the amputation can be done more safely at a lower level; X-ray burns gangrene from frost bite.

Our technic—We expose the femoral artery in the lower two-thirds of Scarpa's triangle, free it and have the assistant support it on his index and second fingers. With a very fine needle we inject 1 to 2 c.c. of 95 per cent alcohol into the loose tissue until an alcoholized ring or collar completely encircles the artery. In order to reach the back of the artery it is rotated with forceps. We are very careful not to enter the wall of the artery. When completed the artery appears as if it had been seared by a hot iron, the appearance of the loose tissue being of a brownish color and the arterial wall yellowish white.

In the only other technic of injection that we have seen described (and this is subsequent to the first one of our own method) only 2-3 minims of alcohol are used. We believe this accounts for the less permanent effect as compared to our cases.

The effect of alcoholic injection is immediate. It is not preceded by a period of vasoconstriction as is the case in periarteriorraphy. There is an immediate change in pulse volume below the site of injection. The operated extremity im-

mediately becomes flushed and warm. We have had a cyanotic leg and foot clear up before the patient left the operating table. The effects are more permanent than in a periarteriorraphy, the results from the latter disappear in a couple of months or less. The risk of injuring the blood vessel is practically nil in making the injection. The shock of the operation is of little consequence and the time necessary for the completion of the operation is only a few minutes. The end results in the few cases that we have used the operation on have been lasting and gratifying.

To briefly summarize four cases typical of four conditions (a) indolent ulcer; (b) ulcer from senile arteriosclerosis, (c) varicose ulcer and (d) chronic traumatic ulcer. All of these cases had negative Wassermanns, no sugar in their urine and blood sugar was normal.

(a) Indolent Ulcer—Young, well developed male negro, age 36, in good health except for three large ulcers on the lower one-third of his left leg. These were of nine years' duration. Had been treated over long periods of time by several doctors and had been treated in the hospital for three months. No results. At operation the ulcerations were crater like, the bases situated beneath the deep layer of the skin, edges were clear cut. No signs of granulation.

A pre-arterial injection of 95 per cent alcohol was done, using spinal anaesthesia. The patient left the operating room with the left leg distinctly warmer than the right. The resident was instructed to study the ulcer changes and prepare the patient for the grafting of skin on the ulcers eight days later. At the end of that time healing had progressed to such an extent that the patient declined further treatment. Two weeks later he secured a job in a garage and on October 16th, when last seen, the ulcers had healed and were evidenced only by light colored scars.

(b) Case of ulcer due to senile arteriosclerosis—Mr. C., 72 years old. His right foot had a perforating ulcer beneath the big toe. Another on the instep and a third on the lower end of the leg just above the external malleolus. His foot and leg were cold, clammy, moist, swollen, the skin was greatly thickened and bronzed in appearance.

Under spinal anaesthesia the femoral artery was exposed. The artery was markedly sclerotic and rigid. It was with trepidation that we attempted to elevate it. The injection was done and the assistant remarked that he could note a change in pulsation below the site of injection immediately. Upon examination by the assistants and nurses a distinct increase in warmth of the extremity was noted before he left the operating room.

Within two weeks all the ulcers had healed, the edema disappeared and when last seen in October the thickened skin of the leg and foot had exfoliated and was soft in texture, a bright pink in color, suggesting that of the skin of the foot of a new born babe.

(c) A case of traumatic ulcer of 54 years' duration. Mr. H. when 14 years of age was a jockey. He received an injury to the leg over the middle of the right tibia anteriorly. An ulcer

developed and for 54 years he had been seeking a cure. He was treated as the other cases and with the same results. The ulcer had healed within two weeks and so remains.

(d) Varicose Ulcer—Mr. B. had had a well developed case of varicose veins of the right leg. These had been treated surgically with fair results but three chronic ulcers persisted on the antero-lateral surface of the leg. They were of 14 years' duration. He was treated as the other cases and with the same results.

While our cases number less than 20, yet we feel that our results justify us in recommending this procedure as worthy of trial in selected cases.

We shall certainly never do a periarterial sympathectomy again. In certain cases where the lower extremity is affected we would recommend a lumbar ganglionectomy and ramisectomy. For the upper ex-

tremity we would recommend a ramisectomy. But for vascular conditions of which the above cases are typical we would certainly urge a peri-arterial injection of alcohol. We would also recommend this operation for pre-gangrenous conditions, and for cases of chronic arthritis deformans of the extremities.

We recommend the operation: (1) Because the effect is immediate. (2) There is no period of vaso constriction as in a periarteriography. (3) The operation requires only a few minutes. (4) The technic is simple, and the operative shock is of little consequence. (5) The results are more permanent than those of a sympathectomy. (6) The dangers of an accident to the blood vessels is eliminated.

CASE OF CARCINOMA OF THE UPPER LID PLASTIC OPERATION

GEORGE E. FROTHINGHAM, M.D., F.A.C.S.*

DETROIT, MICHIGAN

This case seems to me to be of peculiar interest for two reasons. In the first place, it deals with a plastic operation for carcinoma of the upper lid, a rather rare operation, if I can judge by the lack of reports in a rather extensive reading. I found many descriptions of lower lid plastics but I did not find one description of an upper lid plastic operation. In the second place, this patient was treated by experts in the use of radium and the electric cautery for a period of two years and the result was an increase in the growth and apparent malignancy, until not only was the loss of the eye threatened but the growth was boring in to such an extent that even life might be involved.

HISTORY

G. J. S.—Cattle dealer, age 54 years.

Five years ago, while shoving beef along a rail, a beef hook caught in the upper lid of the patient's left eye. It entered the lid about $\frac{3}{16}$ of an inch from the inner canthus. Ulceration followed which never completely healed but there was no pain and the patient did not consult a physician. Three years ago, when the spot on the lid seemed to be growing larger, he consulted a radium specialist who expressed the opinion that radium would make a rapid and permanent healing. He was treated by this physician for almost a year. There was no improvement, the growth was larger, had grown very painful and there was considerable discharge.

He then consulted a surgeon who in October 1924, removed the growth with a coagulation cautery. An apparent healing followed but soon a small pearl-like bleb appeared about the center of the scar which soon began to break down. In March 1925, the surgeon gave patient a radium treatment of two hours duration. Again the bleb appeared and on May 29, 1925, the cautery was again used, followed by apparent healing but there was now a contraction of the upper lid. In September, following a breaking down, the surgeon cauterized the lid with an electric needle. Again there was a breaking down of tissue and marked contraction of the upper lid. In February 1926, the surgeon used 50 milligrams of radium on the lid for two hours. The net result of two



years of the most modern and approved treatment was an increase in growth, an upper lid contracted, ulcerating and discharging, a patient nervous and despairing.

* George Edward Frothingham, M.D., Chief Eye, Ear, Nose and Throat Department and Chairman Executive Committee Medical Staff, Harper Hospital, Detroit, Mich.

On August 17, 1926, we operated. The examination showed a man in good physical condition but exceedingly nervous. Vision of each eye—normal, marked conjunctivitis, no involvement of eyeball, no ulceration of cornea. Growth on upper lid of left eye, quite extensive, involving nasal half of upper lid, including margin. It was very red, bled easily and involved all of the lid tissue. Careful examination in front of ear, along the lower jaw and neck showed no enlarged lymphatics. Analysis of urine, color amber. Reaction, acid. Specific gravity 1018. Albumen, negative. Sugar, possible trace. Bile, negative. No casts, occasional white cells. Blood, sugar 0.117% N. C. N. 400 mg. Blood Wassermann, negative, W. B. C. 9000. Polys 65%. Mono. 45%. Lungs and heart, negative.

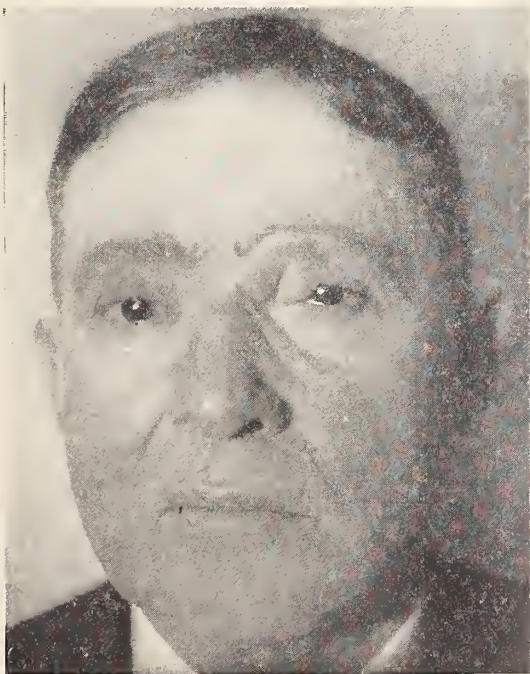
Operated under gas and ether anesthesia. Left eye brow was shaved and lid properly prepared. An incision, starting just inside the lower margin of the eye brow, was carried to a point just beyond the center of the lid. The lid was then split vertically, well outside the growth. The lid flap was then dissected, going fairly deep under the growth to insure healthy tissue and tissue of the same width, covering the side of the nose was taken. The lower lid and nose showed no involvement and we were able to save the lower canaliculus. A flap was now made from the forehead, large enough and of sufficient size and thickness to cover easily and without traction. This flap was now turned so as to form an upper lid and was stitched in place with black silk. The

in the margin of the lid. The cornea was clear and the eyeball well covered.

LABORATORY REPORT—HARPER HOSPITAL

August 25, 1926—Basal cells carcinoma. Cells actively growing and infiltrating.

Patient discharged from hospital, August 31,



1926. Six weeks after, patient was given one deep therapy treatment.

Last examination June 12, 1929, almost three years after the operation, patient's eye is in excellent condition. He has not had the slightest trouble, ad at on time, since the operation in August has there been any pain and not the slightest indication of a return of the growth. Patient has pursued his business without the loss o fa day.

REPORT OF A CASE OF KERATOCONUS

Keratoconus is a rather rare disease which usually appears between the twelfth and twentieth years. The development is gradual with a progressive thinning of the central part of the cornea which gives way before the intraocular pressure. There is no increase of intraocular tension and the cause of the thinning of the cornea is unknown. Rupture of the cornea does not occur. The rubbing of the lids or the stretching of the cornea, producing lacerations, may result in ulceration of the apex of the cornea. Treatment of this disease has varied, myotics have been used, compression bandages and operations such as sclero-corneal trephine, iridectomy and galvanic cautery but with little success.

In the case reported, both eyes were involved. I had been able to hold the right eye in check but the cone of the cornea of

conjunctiva was then drawn down so as to cover the under surface of the flap and stitched to the margin. The tissue of the forehead was thoroughly undermined, drawn together and stitched with silk worm suture. A pad of iodoform gauze was then placed over the graft at the nasal angle, pressing the graft well into the pocket. Gauze dressings were applied and the eye bandaged.

The dressings were not removed until August 27, 1926, nine days after the operation. The graft had taken well but one stitch at the margin of the lid had given way, making a small nick

the left eye, despite treatment and an iridectomy, gradually increased until the cornea was commencing to ulcerate. The use of a cautery would leave a dense central scar with an eye disfigured and I decided to use the operation perfected and described by Dr. Fox of Philadelphia for conical cornea.

HISTORY

Miss I. H.—Domestic, age 28 years.

First saw patient in November, 1923. Patient stated that she had first noticed the vision failing about twelve years ago and had used glasses for the past seven years. Patient was in good physical condition, has never been ill—family history negative. Tonsil operation about ten years ago. Eyes, ears, nose, throat and teeth in good condition. No constipation. Analysis of urine—negative.

O.D. Vision equalled 20/120. Plus 0.50 DS. combined with plus 0.50 DC. Axis 180, vision equalled 20/70 plus 2. O.S. Vision 4/200—not improved with glasses. Fundus—normal. Pupil reaction—normal. Tension (fingers) normal. Cornea both eyes—clear. Diagnosis—conical cornea, marked in left eye.

Patient given esserene drops, instructed in use of pressure bandage, forbidden to use the eyes for close work. Diet and bowels regulated. Patient reported regularly for observation. January 16, 1924, there was marked increase in corneal bulging of left eye but the right eye seemed improved. Vision right eye, 20/50 plus. Left eye, 1/200. Tonic given and dionin drops prescribed in connection with the esserene. January 26, 1924, vision unchanged, but there was a beginning central opacity of the cornea. February 25, 1924—iridectomy on left eye. March 6, 1924, there was a lessening of the corneal bulging, the opacity had cleared and left eye had lost some of the feeling of fullness. Vision unchanged. September 11, 1924, vision right eye, 20/50. Left eye, 2/200. Right eye unchanged but an increase of corneal bulging in the left eye with some odema of the center of the cornea. Patient complained of pain in this eye, photophobia and lachrymation. The cone of the cornea from this time to November gradually increased with repeated recurrence of

the central corneal haziness with beginning ulceration.

November 8, 1925, patient entered Harper hospital and on November 10, 1925, I performed the Fox operation on the left eye. On making the corneal incision, before the counter puncture could be made, the patient suddenly jumped, causing a gush of aqueous and forcing the lens against the point of the knife, injuring the capsule. The incision was completed, a narrow piece of the cornea removed and as much as possible of the lens matter extracted by pressure and an anterior chamber douche. Cornea was then stitched with black silk. The wound healed by first intention, the remaining lens matter was gradually absorbed, leaving only a slight band of opaque capsule at the upper part of the pupil. Since this operation, there has been a gradual decrease in the bulging of the cornea and no recurrence of the corneal inflammation. There are two very slight opacities remaining from the previous inflammation but the scar from the corneal incision is not marked and is well covered by the upper lid. The last examination was made on September 14, 1927. Vision of the right eye, 20/40. Left eye, 20/200 with plus 6 DS.

I am of the opinion that the Fox operation calls for a general anesthetic rather than a local, if the best results are to be obtained. Any movement or straining is bound to do damage while the operation is being done, while on the other hand, the careful stitching of the cornea and thorough bandaging will, in all probability, prevent any harm from nausea due to a general anesthetic.

This case is interesting for two reasons—the patient has obtained much better vision than would have been possible by any other operation, since the cautery would have left a dense scar involving the center of the cornea and because the patient is spared the humiliation of a disfigured eye which is always sure to attract attention, and militate against employment.

ARTHRITIC PAIN IN RELATION TO CHANGES IN WEATHER

Edwin B. Rentschler Francis R. Vanzant and Leonard J. Rowntree, Rochester, Minn., made a study not to prove the existence of a relationship of arthritic pain to weather change but to determine whether or not such a relationship actually exists. They feel certain that many of their patients with arthritis can, through an increase in the severity of their pain, sense the approach or presence of storms. In a group of 367 patients studied for a year there was a positive relationship for 72 per cent of the time between the curve

of pain and that of barometric pressure. For 21 per cent of the time the relation was equally definite, but as one line went up the other went down. In only 7 per cent of the time was a relationship undemonstrable. For more than 990 per cent of the time there was a relation between the presence of storms and an increase of pain. Observations on humidity, temperature and atmospheric electricity were inconclusive, although it is still possible that these agents working together have some effect.—Journal A. M. A.

BOTULISM FROM INGESTION OF RIPE FRUIT

Death occurred from botulism in a case reported by Willard J. Stone, Pasadena, Calif., in which the symptoms of poisoning developed about half an hour after the ingestion of a ripe persimmon. The early symptoms were nausea and difficulty in swallowing followed within a few hours by diplopia due to extra-ocular muscle paralysis,

rapid heart rate due to paralysis of the vagi, and eventually respiratory paralysis. Necropsy revealed as the most important observations acute parenchymatous changes involving the brain, heart muscle, liver, spleen and kidneys, with marked acute fatty degeneration of the heart muscle and liver.—Journal A. M. A.

Official Program—109th Annual Meeting, Michigan State Medical Society—Jackson, Mich., Sept. 17-18-19, 1929

OFFICIAL CALL

The Michigan State Medical Society will convene in annual session, in Jackson, on September 17, 18, 19, 1929. The provisions of our Constitution and By-Laws and the official program will govern the business and transactions of this annual session.

Louis J. Hirschman, President.

R. C. Stone, Chairman of the Council.

Henry J. Pyle, Speaker.

Attest: F. C. Warnshuis, Secretary.

DAILY SCHEDULE

Headquarters: Elks Temple.

September 17th

10:30 A. M.—House of Delegates.

2:00 P. M.—House of Delegates.

7:30 P. M.—House of Delegates.

September 18th

9:15 A. M.—Scientific Sections.

1:30 P. M.—Scientific Sections.

7:30 P. M.—First General Session.

September 19th

9:15 A. M.—Scientific Sections.

12:00 M.—Second General Session.

1:30 P. M.—Scientific Sections.

FIRST GENERAL SESSION

Time: Wednesday evening, Sept. 18, 7:30 P. M.

Place: First M. E. Church.

1. Call to Order—President L. J. Hirschman, Detroit.
2. Invocation—Rev. Frederick Spence, D. D.
3. Welcome—President Jackson County Medical Society.
4. Announcements—The Secretary.
5. In Recognition—R. C. Stone, Chairman of the Council.
6. President's Annual Address—L. J. Hirschman, Detroit.
7. Address—Wm. Gerry Morgan, Washington, D. C., President-elect, American Medical Association—"Some Inter-related Problems of the Public and the Doctor."
8. Nominations for President.
9. General Business.

SECOND GENERAL SESSION

Time: Thursday, September 19, noon.

Place: Elks' Temple.

1. Call to Order.
2. Report of Nominating Committee.
3. Introduction of President.
4. Business.
5. Adjournment.

SCIENTIFIC SECTIONS

Section in Medicine

Chairman, W. R. Vis, M.D., Grand Rapids.

Secretary, M. R. Shaw, M.D., Lansing.

FIRST SESSION

September 18th—9:15 A. M.

1. Address of Chairman—Dr. Wm. Vis, of Grand Rapids.
2. The Use of Specific Gravity of the Urine as a Test of Renal Function—Drs. S. H. Lashmit and L. H. Newburgh of Ann Arbor.

Description of the purpose, principle and technic of the test. Presentation and discussion of data obtained from normal and pathological cases. Conclusions regarding usefulness and limitations of the test.

3. The Prevalence of Pulmonary Tuberculosis with Acute Onset—Dr. Bruce H. Douglas of Northville.

It is being more generally recognized that pulmonary tuberculosis may start acutely and that its differentiation from other acute respiratory conditions is confusing. It is more important that these cases be diagnosed as soon as possible in order that suitable treatment may be instituted.

4. The Competitive Conference of the League of Nations on Tests for Syphilis—R. L. Kahn, Ann Arbor.

The present status of serum tests for syphilis is based on the findings of the competitive conference (Copenhagen, 1928) of the League of Nations Health Committee at which fourteen different tests were put to a practical trial. The results given by the Kahn test. Summary of present day knowledge of serum diagnosis of syphilis.

SECOND SESSION

September 18th—1:15 P. M.

6. Some Aspects of the Management of Coronary Thrombosis and Its Complications—Dr. Charles L. Brown of Ann Arbor.
7. Infarcts of Cardiac Origin, their Occurrence and Management—Dr. M. A. Mortenson of Battle Creek.

Embolie infarcts may occur from acute or chronic endocarditis, chronic myocardial disease with fibrillation or arteriosclerosis involving coronaries. Emboli produce symptoms and findings according to location. Small ones may be of importance from the standpoint of diagnosis. Digitalis, quini-

din, or even slight activity must be used with discretion in these cases.

8. Rheumatic Heart Disease with Special Reference to Newer Concepts of Rheumatic Fever—Dr. F. A. Willius of Rochester, Minn.

The newer concepts of rheumatic fever are discussed, including the wide-spread distribution of the lesions, the separation of the disease into types and a consideration of possible etiologic factors. The newer ideas of the pathogenesis of the cardiovascular system are considered, the occurrence of involvement in relation to the attacks of the disease and their recurrence and the influence of cardiovascular involvement on life expectancy. The relationship of rheumatic carditis and subacute bacterial endocarditis is considered. Remarks on treatment and prophylaxis are included.

9. Angina Pectoris, Including Coronary Thrombosis—Dr. Walter Wilson of Detroit.

Definition—term limited to coronary artery disease — etiology — rheumatic fever and other infectious diseases in early life—arterial degeneration in later periods. Electrocardiographic changes. Coronary thrombosis—continuity of pain—leucocytosis—sudden fall in blood pressure—occasionally pericardial friction rub. Treatment—rest—acute symptoms relieved by the nitrite group—theobromine group as coronary dilators—iodides—question of operation.

THIRD SESSION

September 19th—9:15 A. M.

10. The Internists Conception of Bronchial Asthma—Dr. Frank R. Menagh of Detroit.

11. The Role of the Oto-laryngologist in the Treatment of Bronchial Asthma—Dr. E. S. Whitney of Detroit.

Discussion of papers of Drs. Menagh and Whitney.

In our experience in the field of Oto-Laryngology, we have found many cases of asthma, which were caused by infections of the para-nasal sinuses, tonsils and teeth. Previous to 1924, the results of treatment, surgical or otherwise, were frequently unsatisfactory.

The object of this discussion is to present some more complete methods of diagnosis and treatment, which have greatly improved our results.

Dr. P. T. Grant of Grand Rapids

12. Symptomatology of the Non-Endocrine Systems due to Endocrinopathies, Illustrated—Dr. Wm. Englebach of St. Louis, Mo.

Relation of the internal secretions to anatomic development and the physiologic function of non-endocrine bodily systems. Harmonic signs presented as osseous, genital, gastro-intestinal, cardiovascular and nervous manifestations. Comparative estimation of primary and secondary effects of ductless gland disorder. Diagnosis and results of treatment.

13. Non-diabetic Glycosuria—Dr. Phil S. Marsh of Detroit.

FOURTH SESSION

September 19th—1:15 P. M.

Election of Chairman—One Year

14. *Symposium on Therapeutics:*
(a) Dietetics—Dr. C. E. Stewart of Battle Creek.

Until a comparatively recent date, diet from a therapeutic standpoint has been almost entirely empirical. However, in recent years the results obtained from work done in the laboratories of Physiological Chemistry and Nutrition has furnished us with solid foundations on which to base a real science of dietetics, capable of meeting therapeutic demands and the clinical indications of rational therapeutics.

(b) Physio-therapy—Dr. Paul Roth of Battle Creek.

(c) Effect of Different Carbohydrates on Blood and Urinary Sugar—Doctors W. B. Lewis, R. P. Bond, Battle Creek.

15. Psycho-therapy—Dr. Yoder of Kalamazoo.

Mental healing unfortunately is used to defraud innocent victims. It means nothing more than treatment with the mind, and the first important thing is diagnosis. It is used by every successful physician in all types of disease, even though he does not recognize it as such. In its application the first principle is re-education; the second, re-adjustment to environment. We cannot change the patient's heredity. Any form of mental suggestion which appeals to the judgment of experienced men and produces results is good psycho-therapy. The successful physician is one who has the ability to prevent illness. The problem of mental diseases must be solved by prevention instead of cure.

16. Sera, Vaccines and Pollens—Dr. J. P. Parsons of Ann Arbor.

Brief discussion of the various antitoxins in use—modes of administration—possible explanation of the apparent impotency at times.

The use of autogenous and stock vaccines with a discussion showing the difficulty of vaccinating the vulnerable organ or tissue. The importance of considering sensitization in the field of immunity.

17. Medicinal Therapeutics—Dr. Wm. H. Marshall of Flint.

Drugs still have an important place in therapeutics. The right drug in the right dose at the right time may cure, relieve or console discussion of specific drugs. Pathological conditions, importance of drugs in correcting disturbed function, relief of distressing symptoms aids nature in effecting a cure, the duty of palliative treatment in incurable diseases.

Discussion—Dr. C. C. Sturgis of Ann Arbor, Dr. W. H. MacCracken of Detroit.

Section on Surgery

Chairman, N. M. Allen, M.D., Detroit.
Secretary, Grover C. Penberthy, M.D., Detroit.

Place: Elks Temple

FIRST SESSION

September 18th—9:15 A. M.

1. The Community Hospital—Dr. Arthur O. Hart of St. Johns.

The first subject stressed is the necessity of securing information in formulating by-laws, rules and regulations of a newly organized hospital. This community type of hospital has many problems peculiar to itself, the solution of which are necessary if the work of the hospital is to be successful. In studying the problem of surgical and maternal mortality, government and various hospital reports have led us to a conclusion: That infection is the cause of the largest percentage of mortality in surgery and obstetrics.

Chief causes of post-operative infection in clean cases.

Our own experience in guarding against infections.

Analysis of the various infections, bacteria causing these infections, and precautions taken in preventing their spread.

The problem of what can be done to lessen maternal mortality is the next topic. Investigation shows that but one to each thousand mothers is lost from causes beyond human control.

Rubber gloves and their limitations in preventing the spread of infection is a subject of importance. Gloves will not always protect from infections, as they may be torn or punctured and thus allow contamination to take place.

Desirable results can only be obtained by giving consideration to every known fact, in making rules and regulations to carry out in detail the by-laws. Also, the adoption of the Minimum Standard and the effort to organize, equip, and work according to this standard has resulted in generally better hospital service for patients.

General summing up of the subject:

1. Preliminary to organization, a careful study of all information that can be secured should be made and the advice of experienced hospital authorities sought, that errors due to inexperience in operating a hospital may be avoided.
2. The interest of patients should receive first consideration in the organization and management of a hospital. There should be a subordination of all personal and other interests that harmony may prevail and patients be assured of first consideration.
3. By-laws, rules, and regulations should be formulated with a view of assuring, so far as such can be assured by organization, the lowest possible mortality

and the shortest possible average days of hospital stay.

4. The best service can only be assured by an earnest effort on the part of the medical and nursing staffs, boards of control and all others interested, in living up to the principle of the Golden Rule.

Discussion—Dr. Walter Parker of Owosso, Dr. Eugene Hart of St. Johns.

2. Postoperative Pulmonary Atelectasis—Dr. Julian Moore of Ann Arbor.

A short review of the history.

A short discussion of the theories concerning the origin of condition.

A report of ten cases, one due to lipiodol injection, one to trauma and one following lumbar sympathectomy.

Discussion of relation of atelectasis to post-operative pneumonia.

Discussion of use of CO₂ inhalations as prophylactic and curative treatment.

Discussion—Dr. E. J. O'Brien of Detroit, Dr. W. A. Hudson of Detroit.

3. Blood in the Stools of Colonic Origin—Dr. D. C. McKenney of Buffalo, N. Y.

The largest percentage of bleeding from colon comes from the lower part of the bowel within easy reach for diagnosis, and usually also for treatment. Causes will be tabulated, and it will be graphically shown how the different methods of diagnosis can reach the pathology. Practical points in differential diagnosis will be discussed. Lantern slides will be shown to illustrate many of the sources of bleeding. Necessary instruments for diagnosis will be shown.

Discussion—Dr. L. J. Hirschman of Detroit, Dr. N. O. Byland of Battle Creek.

4. Accessory Scaphoid and Its Relation to Foot Strain—Dr. Fred C. Kidner of Detroit.

Discussion—Dr. John T. Hodgen of Grand Rapids, Dr. Carl Badgley of Detroit.

SECOND SESSION

1:15 P. M.

5. Goiter and Its Relation to Other Constitutional Diseases—Dr. Max Ballin of Detroit.

Discussion—Dr. Plinn F. Morse of Detroit, Dr. R. D. McClure of Detroit.

6. Electrical Injuries—Dr. Walter L. Finton of Jackson.

Discussion—Dr. F. C. Warnshuis of Grand Rapids, Dr. Max Ballin of Detroit.

7. Untoward Results In Fractures—Dr. F. C. Warnshuis of Grand Rapids.

1. Fundamental principles of fracture treatment that obviate untoward results.
2. Causes of untoward results.
3. Appraisal of results.
4. General principles that circumvent untoward results.
5. Reduction principles.
6. After care.
7. Indications and contra indications for open operation.
8. Non-union.
9. Conclusions.

Discussion—Dr. A. D. LaFerte of Detroit, Dr. R. V. Funston of Detroit.

8. Gallbladder Disease as a Cause of Death—Dr. Earl I. Carr of Lansing.

Gall bladder disease is a very common disease. Gall bladder surgery is so frequently done that it has become ordinary surgery. The Vital Statistics of the State of Michigan show that deaths directly attributed to gall bladder disease are surprisingly few, for less than 2,500 deaths attributed to all diseases of the liver have occurred in the past five years. Some of the significances of and the questions raised by these facts will be discussed.

Discussion—Dr. Henry Vanden Berg of Grand Rapids, Dr. Chas. E. Boys of Kalamazoo.

THIRD SESSION

September 19th—9:15 A. M.

9. Chairman's Address—Dr. N. M. Allen of Detroit.
10. Sarcoma of the Small Intestine—Dr. R. J. Hutchison of Grand Rapids.

Discussion—Dr. Frederick Collar of Ann Arbor, Dr. G. H. Southwick of Grand Rapids.

11. Spinal Anesthesia—Dr. Chas. A. Teifer of Muskegon.

This paper will embody the Pitkin method of Spinal Anesthesia. The method of controlling the anesthesia, and my method of using the Pitkin Solution.

Case histories of some typical and atypical cases will be cited.

The indications and contraindications for surgical cases.

Treatment of the patient when the anesthesia extends too high up the cord.

How to prevent the anesthesia extending too high up the cord.

The control of the blood pressure and the patients with arterio-sclerosis will be discussed.

Discussion—Dr. Wm. R. Clinton of Detroit, Dr. Frank A. Kelly of Detroit.

12. Factors of Safety in Goiter Surgery—Dr. C. D. Brooks of Detroit.

Early operation after careful diagnosis and suitable rest, is most important in lessening the danger in goiter operations. Iodine is an important agent in lessening the post-operative hyperthyroidism. Digitalis is a dangerous agent given as a routine, as a treatment of tachycardia in hyperthyroidism.

A carefully planned technique, modified to suit the type of goiter undergoing operation, skilled assistants and experienced anesthetists are absolutely essential, as well as choosing the most suitable time for operation.

Too much dependence should not be placed upon the Basal Metabolic readings in the treatment of hyperthyroidism.

Discussion—Dr. Richard R. Smith of Grand Rapids, Dr. J. G. Manwaring of Flint.

FOURTH SESSION

September 19th—1:15 P. M.

Election of Officers.

Chairman—One Year.

Secretary—Two Years.

13. The Diagnosis and Surgical Therapy in the Treatment of Peripheral Vascular Diseases—Raynaud's Disease, Thrombo - Angiitis Obliterans and Scleroderma—Dr. G. E. Brown of Rochester, Minn.

The various forms of diseases of the peripheral arteries have been classified into two main groups: Those of an organic and those of a functional nature. Surgical measures that remove vaso-constrictor impulses to the peripheral arteries are applicable in cases in which there are functional disturbances of the constrictor type.

A certain number of cases of the organic diseases associated with vasoconstrictor disturbances are also amenable to surgical measures. The diagnosis and selection of cases is considered.

Discussion—Dr. Max M. Peet of Ann Arbor, Dr. J. J. McClintock of Detroit.

14. Urethral Injuries—Dr. Walter K. Rexford of Detroit.

Modern industrial conditions and rapid transit are responsible for more severe injuries. Early recognition essential to treatment. Contusions and lacerations of deep urethra often a complication of fractures of the pelvis.

Danger of hemorrhage, urinary extravasation and infection in delayed operation.

Necessity of adequate drainage.

Case reports; operative procedure and end results.

Discussion—Dr. H. W. Plaggemeyer of Detroit, Dr. L. M. McKinley of Grand Rapids.

15. Open Reduction of Fractures—Dr. G. J. Curry of Flint.

This subject is discussed, following an analysis of a number of cases of open reduction occurring in the study of two hundred fifty consecutive fractures cared for by the writer. The indications, method of reduction, dangers, and complications associated with this procedure are outlined.

Discussion—Dr. J. G. Manwaring of Flint, Dr. R. V. Funston of Detroit.

Section on Gynecology and Obstetrics

Chairman, Harold M. Henderson, M.D., Detroit.

Secretary, Harry M. Nelson, M. D., Detroit.

Place: Elks Temple

FIRST SESSION

September 18th—9:15 A. M.

SYMPOSIUM ON BIRTH INJURIES

1. Carl E. Badgley (Detroit)—From the Standpoint of the Orthopedist.
2. Lewis E. Daniels (Detroit)—From the Standpoint of the Obstetrician.
3. J. C. Montgomery (Detroit)—From the Standpoint of the Pediatrician.
4. P. F. Morse (Detroit)—From the Standpoint of the Pathologist.
5. Park Heath (Detroit)—From the Standpoint of the Ophthalmologist.

SECOND SESSION

September 18th—1:15 P. M.

SYMPOSIUM ON GLANDS OF INTERNAL SECRETION

1. Physiology of Menstruation—R. W. Alles (Detroit).
2. Thymus Gland in the Newborn—J. A. Johnston and Philip J. Howard (Detroit).
3. Endocrine Glands in Relation to Obstetrics and Gynecology—Robert Moehlig (Detroit).
4. Thymophysine in Obstetrics—L. W. Haynes (Detroit).

THIRD SESSION

September 19th—9:15 A. M.

1. Shall it be X-ray and Radium or Surgery in the Treatment of Fibroids?—Herbert Hewitt (Detroit).
2. Treatment of Pelvic Inflammation—H. Wellington Yates (Detroit).
3. Title to be Announced—James W. Pierce (Ann Arbor).
4. Backache as a Gynecological Symptom—L. S. Baldwin (Ann Arbor).

FOURTH SESSION

September 19th—1:15 P. M.

Election of Chairman

1. Kielland Forceps—Harry Kirschbaum (Detroit).
2. Episiotomy—J. C. Smith (Detroit).
3. Blood Pressure in Normal Pregnancy—H. C. Walser (Detroit).
4. The Treatment of Face Presentation; and Forceps in Occiput-posterior Positions—M. Edward Davis (Chicago).
Motion Pictures.

Section on Pediatrics

Chairman, Wm. S. O'Donnel, M.D., Detroit.

Secretary, John Parsons, M. D., Ann Arbor.

Place: Parish House

FIRST SESSION

September 18th—9:15 A. M.

1. Hormone Influence in Rickets—Dr. M. Boyd Kay, Detroit.

Basing an opinion upon clinical observation, it was assumed perhaps that thyroid disfunction (hypo) contributed to the causation of rickets. Rats in which rickets had been produced were fed on a rachitic diet plus thyroid extract. The amount of thyroid given varied in different groups of rats. A post-mortem examination showed healing in certain groups. The thyroid extraction used was free from para-thyroid. This is a preliminary report.

2. Some Basic Principles in Child Guidance—Dr. E. Lee Vincent, Ph.D., Detroit.

Since the child's physical life cannot be separated from his mental life, the movement toward caring for well children in medicine must include attention to their character and personalities as well as to their bodies. If the pediatrician is to give adequate service to modern childhood he must acquaint himself with the principles of mental hygiene as well as those of physical hygiene.

3. Pituitary Tumors in Children—Dr. Max Peet, Ann Arbor.

Pituitary tumors in children fall into three groups, adenomas, adamantinomas, and Rathke's pouch cysts. The cases here reported illustrate each of these types of pituitary lesions. These tumors are apparently more frequent than is generally recognized. The symptoms may be local, i.e., visual disturbances or evidences of generalized intracranial pressure, or general, i.e., symptoms of pituitary disfunction.

4. A Community Health Study on

Grosse Isle, Michigan—Dr. Chas. W. Wilson, Detroit.

Preliminary report of a piece of work conducted by Merrill Palmer School, describing the development of the study, and including the incidence of various physical defects in relation to nutritional status, height and weight, visual and auditory defects, dietary habits in relation to nutrition, incidence of diseases, causes of absence from school, and housing conditions.

SECOND SESSION

September 18th—1:15 P. M.

1. Some Variations in the Chemical Composition of Mother's Milk—Icie G. Macy, Ph.D., Detroit.
2. Fundamental Factors Underlying the Development of Gastro-intestinal Disorders—Dr. F. W. Schultz, Professor of Pediatrics, University of Minnesota Medical School.

If recognized and logically analyzed they simplify the diagnosis and give clear-cut indications for treatment. If thought of in terms of physiological effect of various food components and food tolerance in normal or abnormal gastro-intestinal environment the disorders permit reasonable explanation of clinical phenomena and practical therapeutic procedure.

3. Meningococcic Meningitis—Dr. Edgar E. Martner, Detroit.
4. Immunotransfusion in Scarlet Fever—Dr. J. E. Gordon, Detroit, and Dr. H. T. Mernaugh, Detroit.

Immunotransfusion, transfer of whole blood from recent scarlet fever convalescents, constitutes an effective specific treatment of septicemia, septico-pyemia and sepsis associated with complications of convalescence. In desperate cases of early septic scarlet fever, immunotransfusion offers greater success than either convalescent or antitoxic serums. The theoretical basis depends upon (1) the nutritive effect from any blood transfusion, (2) transfer of large numbers of unaltered leucocytes with high specific opsonic index, and (3) injection into the blood of specific anti-bodies in concentration greater than otherwise practical.

THIRD SESSION

September 19th—9:15 A. M.

1. The Review of Literature Relative to Animal Experimentation Regarding Thymic Disturbance—Dr. Clement Smith, Ann Arbor.
2. Clinical Aspect of Thymic Diseases—Dr. W. C. Cole, Detroit.

Short resume of the clinical literature. Reference to certain features of the anatomy, physiology and pathology of the thymus.

Description of the syndromes usually attributed to thymic disease. Methods and difficulties of diagnosis, with special reference to the X-ray. Differential diagnosis. Personal experiences. Comment on X-ray therapy. Conclusions as to the importance of the thymus in pediatrics.

3. Present Concepts of Enlarged Thymus and the Thymico-Lymphatic Diatheses with Review of 200 Cases—Dr. M. Cooperstock, Ann Arbor.

It will be the purpose of the paper to discuss some of the present theories with an attempt through the study of case records to correlate the various ideas. In reference to thymic enlargement particular attention will be given to those ideas which attempt to show that the thymus plays other than a primary role in the production of the various clinical manifestations.

4. The Use of X-ray in the Diagnosis and Treatment of Enlarged Thymus—Dr. S. Donaldson, Ann Arbor, and Dr. J. Barnes, Ann Arbor.

The diagnosis of enlarged thymus is considered from both a clinical and radiological standpoint. The importance of recognition and treatment is considered in reference to the three age groups in which this condition is found. Tendency towards occurrence in families, and the absence of deleterious effects from treatment is emphasized.

5. Discussion—Opened by Dr. D. J. Levy, Detroit, and Dr. R. M. Kempton, Saginaw.

FOURTH SESSION

September 19th—1:15 P. M.

Election of Chairman—One Year.

1. A Clinical Study of Rickets—Dr. Donald J. Barnes, Detroit.
2. The Importance of Constitution and Body Type in Infancy and Childhood—Dr. Borden S. Veeder, Professor of Clinical Pediatrics, Washington University Medical School, St. Louis, Mo.
3. Cin-ex Studies of the Thymus in Infants and Children. Influence of Respiration and Circulation on Thymic Shadows—Dr. Clyde K. Hasley, Detroit.

With the Cin-ex Camera we are able to take twenty or twenty-five films of the chest in about ten to fifteen seconds. The films show the effect of the heart in diastole and systole as well as the effect of respiration, producing a very marked change in the size of the thymic shadows. We are also able to demonstrate that many of the shadows which were frequently interpreted as being

evidence of an enlarged thymus are due to movement and engorgement of the larger vessels of the heart. Some of the children with the inspiratory crow and difficulty in breathing have turned out to be cardiac cases rather than thymic enlargements.

Section on Ophthalmology and Oto-Laryngology

*Chairman, A. R. McKinney, M.D.,
Saginaw.*
*Secretary, Carl F. Snapp, M.D., Grand
Rapids.*

Place: Parish House

FIRST SESSION

Wednesday, September 18th—9:15 A. M.

9:15-10:30 A. M.—Round Table Conference on
Nose and Throat Problems.
Conducted by
Dr. John F. Barnhill,
Indianapolis, Ind.

Round Table Conference on
Eye Problems.
Conducted by

Dr. Parker Heath,
Detroit, Mich.

11:00-12:30 P. M.—The above Conference will be
repeated during this period.

SECOND SESSION

1:30 P. M.

1:30 P. M.—Chairman's Remarks.

2:00 P. M.—"Syphilis of the Upper Respiratory
Tract."

Dr. John F. Barnhill,
Indianapolis, Ind.

2:30 P. M.—"The Value of Visual Fields."
Dr. Parker Heath, Detroit.

3:00 P. M.—"Insection of the Sigmoid Sinus."
Dr. D. R. Heetderks, Grand Rapids.

3:30 P. M.—"Perforating Injuries of the Eye by
Small Steel Fragments."
Dr. Howell L. Begle, Detroit.

THIRD SESSION

Thursday, September 19th—9:00 A. M.

9:00-10:30 P. M.—Round Table Conference on
Ear Problems.
Conducted by
Dr. Robert Sonnenschein,
Chicago, Ill.

Round Table Conference on
Eye Problems.
Conducted by

Dr. H. W. Woodruff,
Joliet, Ill.

11:00-12:30 P. M.—The above conference will be
repeated during this period.

FOURTH SESSION

Election of Chairman

1:30 P. M.—"Functional Tests of Hearing."
Dr. Robert Sonnenschein, Chicago.

2:00 P. M.—"Deep Iridectomy for the Cure of
Chronic Simple Glaucoma."
Dr. H. W. Woodruff, Joliet, Ill.

2:30 P. M.—"Nasal Fractures."
Dr. Ferris N. Smith, Grand Rapids.

3:00 P. M.—"Some Recent Observations in the
Pathology of the Nasal Sinuses."
Dr. Carl G. Wencke, Battle Creek.

3:30 P. M.—"Chronic Maxillar Sinusitis."
Dr. A. P. Wilkinson, Detroit.

HOUSE OF DELEGATES

FIRST SESSION

Place: Main Ball Room, Hotel Hayes.

Time: 10:30 A. M., September 17th.

Speaker: Henry J. Pyle, Grand Rapids.

Secretary: F. C. Warnshuis, Grand Rapids.

ORDER OF BUSINESS

1. Call to Order.
2. Report of Credentials Committee.
3. Roll Call.
4. Speaker's Address—H. J. Pyle.
5. President's Address—L. J. Hirschman.
6. Annual Report of the Council—R. C. Stone.
7. Appointment of Reference Committee.
8. Election of Nominating Committee.

NOTE—No two members from one Councilor
District shall be elected to the Nom-
inating Committee.

Duty of Nominating Committee:

(a) Supervise Ballot for President.

(b) Nominate:

(1)—Four Vice Presidents.

(2)—Delegate and Alternate Dele-
gate to succeed Dr. Carl A.
Moll and Andrew P. Biddle,
terms expiring.

(c) Designate place of next Annual Meet-
ing.

9. Reports of Committees:
Medical Education.
Public Health.
Legislation.
Tuberculosis.
Civic and Industrial Relations.
Venereal Prophylaxis.
Medical History.
Legislative Commission.
Delegates to A. M. A.
10. New Business and Resolutions.
11. Recess.

SECOND SESSION

2:30 P. M.

1. Roll Call.
2. Report of Reference Committees.
3. Unfinished Business.
4. New Business.

THIRD SESSION

7:30 P. M.

1. Roll Call.
2. Report of Reference Committees.
3. Report of Nominating Committee.
4. Elections:
 - (a) Four Vice Presidents.
 - (b) Place of Annual Meeting.
 - (c) Delegate and Alternate to A. M. A.
 - (d) Councilors.
 - 13th District
 - 14th District
 - (e) Speaker.
 - (f) Vice Speaker.
5. Unfinished Business.
6. New Business.

DELEGATES TO ANNUAL MEETING

(Delegates in Caps, Alternates in Lower Case.)

Alpena County

S. T. BELL, Alpena
D. A. Cameron, Alpena

Northern-Michigan**Antrim-Charlevoix****Emmet-Cheboygan**

W. E. CHAPMAN, Cheboygan
F. C. Mayne, Cheboygan

Barry County

C. P. LATHROP, Hasting
Guy C. Keller, Hastings

Bay-Arenac-Iosco

E. F. CRUMMER, Essexville
A. D. Allen, Bay City

Berrien

W. C. ELLET, Benton Harbor
Robert Snowden, Buchanan

Branch

S. E. FAR, Quincy
W. J. Bien, Coldwater

Calhoun

C. S. GORSLINE, Battle Creek
GEORGE HAFFORD, Albion
W. L. Godfrey, Battle Creek
W. F. Martin, Battle Creek

Cass

WM. C. McCUTCHEON, Cassopolis
Edgar A. Planck, Dowagiac

Chippewa-Mackinac

W. B. KENWORTHY, Fort Brady
E. H. Webster, Sault Ste. Marie

Clinton

GUY H. FRACE, St. Johns
W. H. Gale, St. Johns

Delta

GEORGE BARTLEY, Escanaba
H. J. Defnet, Escanaba

Dickinson-Iron**Eaton**

P. H. QUICK, Olivet
Stanley Stealy, Charlotte

Genesee

C. MOLL, Flint
M. S. KNAPP, Flint
F. REEDER, Flint
G. Curry, Flint
J. G. R. Manwaring, Flint
W. Winchester, Flint

Gogebic

W. ELWOOD TEW, Bessemer
C. E. Stevens, Bessemer

Grand Traverse-Leelanau**Gratiot-Isabella-Clare**

W. E. BARSTOW, St. Louis
M. J. Budge, Ithaca

Hillsdale

H. C. MILLER, Hillsdale
James A. Bates, Camden

Houghton-Barage-Keweenaw

W. H. DODGE, Hancock
W. A. Manthei, Lake Linden

Huron

W. B. HOLDSHIP, Uby
C. B. Morden, Bad Axe

Ingham

J. EARL McINTYRE, Lansing
MILTON SHAW, Lansing
Fred Huntley, Lansing
O. H. Bruegel, East Lansing

Ionia-Montcalm

F. A. JOHNSON, Greenville
H. M. Maynard, Ionia

Jackson

C. D. MUNRO, Jackson
J. J. O'MEARA, Jackson
Philip Riley, Jackson
C. S. Clarke, Jackson

Kalamazoo-Van Buren

R. D. THOMPSON, Kalamazoo
F. T. ANDREWS, Kalamazoo
J. F. Berry, Kalamazoo
Paul Schrier, Kalamazoo

Kent

J. D. BROOK, Grandville
A. V. WENGER, Grand Rapids
G. H. SOUTHWICK, Grand Rapids
R. H. DENHAM, Grand Rapids
W. E. Wilson, Grand Rapids
R. H. Spencer, Grand Rapids
J. S. Brotherhood, Grand Rapids
F. N. Smith, Grand Rapids

Lapeer

H. B. ZEMMER, Lapeer
W. J. Kay, Lapeer

Lenawee

R. G. B. MARSH, Tecumseh
C. H. Westgate, Morenci

Livingston

L. A. DAVIS, Howell
Hollis Sigler, Howell

Luce

H. E. PERRY, Newberry
R. E. L. Gibson, Newberry

Macomb

V. H. WOLFSON, Mt. Clemens
A. A. Thompson, Mt. Clemens

MANISTEE

A. A. McKAY, Manistee
H. D. Robinson, Manistee

Marquette-Alger

C. N. BOTTUM, Marquette
S. Lojacono, Marquette

Mason**Mecosta-Osceola**

L. E. KELSEY, Lakeview
Thomas P. Treynor, Big Rapids

Menominee

EDWARD SAWBRIDGE, Stephenson
D. R. Landsborough, Daggett

Midland

GEORGE E. ORTH, Midland
E. J. Dougher, Midland

Monroe

S. J. RUBLEY, Monroe
M. A. Hunter, Monroe

Muskegon

C. J. BLOOM, Muskegon
V. S. Laurin, Muskegon

Newaygo

P. DRUMMOND, Grant
H. R. Moore, Newaygo

Oakland

JOSEPH MORRISON, Royal Oak
ROBERT BAKER, Pontiac
George Raynale, Birmingham
Frank Mercer, Pontiac

Oceana

J. H. NICHOLSON, Hart
A. R. Hayton, Shelby

Otsego, Montmorency, Crawford,**Oscoda, Roscommon, Ogemaw**

C. R. KEYPORT, Grayling,
Frank E. Abbott, Sterling

Ontonagon

F. W. McHUGH, Ontonagon
C. F. Whiteshield, Trout Creek

Ottawa

R. H. NICHOLS, Holland
S. L. DeWitt, Grand Haven

Saginaw

J. T. SAMPLE, Saginaw
C. E. Toshach, Saginaw

Sanilac

D. D. McNAUGHTON, Argyle
S. M. Tweedie, Sandusky

Schoolcraft

W. E. THOMSON, Manistique
A. R. Tucker, Manistique

Shiawassee

I. W. GREENE, Owosso
W. E. Ward, Owosso

St. Clair

A. J. MAC KENZIE, Port Huron
Reginal Smith, Port Huron

St. Joseph**Tri-County****Wexford-Kalkaska-Missaukee**

W. J. SMITH, Cadillac
S. C. Moore, Cadillac

Tuscola

S. B. YOUNG, Cass City
N. J. Malloy, Gagetown

Washtenaw

JOHN WESSINGER, Ann Arbor
 UDO WILE, Ann Arbor
 Mark Marshall, Ann Arbor
 Theophil Klingman, Ann Arbor

Wm. S. Reveno
 George K. Sipe
 E. D. Spalding
 H. B. Steinbach
 A. H. Whittaker
 F. C. Witter

Wayne County

CHAS. J. BARONE
 E. C. BAUMGARTEN
 ANDREW P. BIDDLE
 GEORGE VAN AMBER BROWN
 A. S. BRUNK
 HENRY R. CARSTENS
 WM. J. CASSIDY
 A. E. CATHERWOOD
 JOHN L. CHESTER
 BASIL L. CONNELLY
 JAMES E. DAVIS
 HARY F. DIBBLE
 CHAS. E. DUTCHESS
 BERT U. ESTABROOK
 DANIEL P. FOSTER
 LOUIS J. GARIEPY
 H. B. GARNER
 L. O. GEIB
 CLYDE K. HASLEY
 LESLIE T. HENDERSON
 A. JOS. HIMMELHOCH
 STANLEY W. INSLEY
 CHAS. S. KENNEDY
 CHAS. B. LAKOFF
 STANLEY V. LAUB
 D. J. LEITHAUSER
 C. F. McCLINTIC
 J. R. RUPP
 FRANK J. SLADEN
 WALTER J. WILSON
 Myra E. Babcock
 George J. Baker
 C. C. Birkelo
 D. S. Brachman
 Florence Chadwick
 Norman E. Clarke
 C. R. Davis
 J. H. Dempster
 Walter L. Hackett
 W. H. Honor
 Frank A. Kelly
 L. F. Kennedy
 J. Frank Kilroy
 B. H. Larsson
 F. O. Lepley
 R. E. Loucks
 H. A. Luce
 H. M. Malejan
 F. M. Meader
 Nelson McLaughlin
 C. D. Moll
 R. L. Novy
 Clarence I. Owen
 G. C. Penberthy

CREDENTIALS COMMITTEE

Speaker Pyle has appointed the following Committee on Credentials:

W. E. Chapman, G. C. Pemberthy, J. J. O'Merra, H. B. Zemmer, R. H. Nichols.

Delegates will obtain their credentials from their County Secretary. These are to be presented to the Credentials Committee, which will convene at 9:00 A. M., July 17th, in the room off of the main ball room in the Hotel Hayes. Your credentials must be approved by this committee before you can take your seat as a delegate.

You are reminded that the House of Delegates convenes in the MAIN BALL ROOM OF THE HOTEL HAYES AT 10:00 A. M., SEPTEMBER 17th.

COMMITTEE REPORTS**HOSPITAL SURVEY**

To the House of Delegates:

There has been no occasion for our committee to convene during the year 1928-29, consequently I have no report to present.

CHAS. F. DUBOIS, M.D.
 Chairman, A.M.A. Hospital Survey Committee.

COMMITTEE ON MEDICAL EDUCATION

The House of Delegates,
 The Michigan State Medical Society.

Your Committee on Medical Education submits the following annual report:

Undergraduate Medical Instruction in this state, as the Delegates know, is conducted by the University of Michigan Medical School and the Detroit College of Medicine and Surgery, the one school attached to the State University, the other part of the educational system of the City of Detroit. Both institutions are in a sound, healthy condition and are making considerable effort to improve and at the same time render more practical their methods of instruction in the medical sciences.

Memorandum:

"Dr. Hugh Cabot, Dean of the University of Michigan Medical School, states that in examining, as the Faculty does, by interview and otherwise, of a large number of candidates for admission, he is struck by the fact that they fall roughly into two classes: (a) Those who have devoted a large proportion of their time in col-

lege to the sciences; and (b) those who have taken only the minimum requirement in science and spent at least a considerable amount in what used to be called the 'humanities,' namely, history, economics, philosophy, psychology and sociology. His examination of these candidates has led him to the conclusion that those who have taken the broader course suggested under (b) are better prepared and that, on the whole, the additional work in the sciences is not to their best advantage in their premedical years. It seems to him that they will get an ample exposure to science during the medical course; that, however, the other fields are of tremendous importance in qualifying them as physicians and that we should, therefore, indicate our view that increase in the science requirement is at least, at the present, undesirable. If the time ever comes when the work in the secondary schools can be pushed ahead more rapidly and more time allowed for work of college grade, then perhaps we may be justified in entertaining an increase in science, though, even then, his own view is that more time in other fields is more important to them than an increase in the science requirement."

With this memorandum the other members of the Committee concur.

Dr. Cabot's Memorandum:

"The chief point he would like to have stressed in the report concerns itself with the study of the qualifications for admission. Many, if not most, of the medical schools in this country are depending largely if not chiefly on academic grades as submitted by the institutions which the candidat has attended, together with recommendations from teachers in science with whom he has been in contact. The older he grows the less he trusts academic grades partly because it does not appear to him to show that the candidate has the essential qualifications of a physician."

The Committee believes that as far as may be possible the personality and the background of candidates for admission to the medical schools should be carefully considered with the view to protecting the public from men who are fundamentally entirely unfit to pursue a professional career. More searching methods of study are essential in these days of increase of pressure when a certain number of men are being refused admission on account of the overcrowding of the schools.

The Committee believes that a general or comprehensive examination at the end of the medical course would be valuable in determining whether or not the candidate for graduation is prepared to undertake the practice of medicine, and, if not, what additional qualifying work should be required.

Dr. Cabot's Memorandum:

"We have not thought it possible to give a comprehensive examination at the end of two years, though it is quite clear that such knowledge of students would be desirable since the courses up to this time have not been sufficiently correlated so that a general or comprehensive view of them can be expected from the student. Perhaps, as time goes on, the correlation which would be so desirable between the preclinical subjects may develop to a point where a comprehensive examination at the end of the two years will be feasible."

This method of examination seems to him increasingly desirable because the number of applicants for Medical Schools is increasing and it is

eminently desirable that only the best qualified people should be finally turned out as practitioners.

As has been recorded in the Journal, Post-graduate Medical courses of the Michigan State Medical Society and the University of Michigan Medical School have been successfully conducted during the current year. The bulk of this work has been done in Detroit with the aid and co-operation of the Detroit College of Medicine and Surgery. Plans are being made whereby the offerings for next year can be greatly improved in content and method.

HUGH CABOT,
W. H. MacCRACKEN,
ANDREW P. BIDDLE,
Chairman.

COMMITTEE ON CIVIC AND INDUSTRIAL RELATIONS

To the Speaker and House of Delegates of the Michigan State Medical Society:

The Civic and Industrial Relations Committee has had two meetings this year, one at the Palmer House in Chicago, January 16th, and the other at the Book-Cadillac hotel in Detroit, June 18, 1929. At the Chicago meeting the following subjects were discussed, the first three being made the major activities for the year:

1. Question of life insurance companies requesting physicians to furnish statements of present physical condition of applicants for insurance, without remuneration for services.
2. Revision of form of health and accident insurance companies' report blanks and the charging of fees for filling out claim reports.
3. The relationship of industrial medicine and industrial surgery in factory clinics.
4. Irresponsibility and negligence of automobile drivers in not paying hospitals and physicians for medical services, when either injured themselves or having injured someone else.
5. Study of the free clinic situation.
6. Revision of form of report blanks for compensation insurance companies.

The chairman of the committee was instructed to secure data by correspondence from each Old Line Life Insurance Company and Health and Accident Insurance Company authorized by the State Insurance Department to transact business in Michigan. A questionnaire was also mailed to each County Society requesting data on the factory clinic situation. Letters were mailed to 126 life insurance companies and 183 health and accident insurance companies, and questionnaires to 54 county medical societies. The replies were carefully studied and that data classified and tabulated by the chairman in the form of preliminary reports, which were presented to the committee at the Detroit meeting.

From the analysis of the data received from life insurance companies, it was found that the majority did not provide a fee for special reports upon applicants for insurance; that the majority of these companies were willing to pay a fee for such reports; and that the average amount of the suggested fee was \$2.00. Various statements in the replies indicate that an appreciable number of the companies believed that physicians should furnish reports without fee, stating that it was a professional obligation to the patient. Some stated that the fee should be paid by the applicant.

In the case of the health and accident insurance companies, provision for the payment of a fee to physicians for filling out claim blanks was made by only three companies, and all but four were unwilling to pay a fee; a large majority believed that physicians should supply reports for either claimant or insurance company without fee; and that if a fee be charged the claimant should pay it. It was contended that the payment of health and accident claims provided the means by which a physician could be remunerated for his services to the claimant and if it were not for this fact many physicians would go unpaid.

There was a reaction from both life insurance and health and accident companies that a move on the part of the medical profession to exact fees for providing reports would decrease the margin of profit for the insurance companies, thereby increasing the insurance rates to the claimant.

All but eight of the questionnaires mailed to the county societies were returned. The state-wide survey by counties showed that there was little evidence of violation of the Medical Practice Act by trained nurses in charge of first-aid departments of industrial plants. Most of the nurses in charge of clinics were supervised in their work by physicians serving as full or part time directors. Wayne County Medical Society, through its executive secretary, Dr. Earl Miller, has supplied the committee with the most comprehensive and valuable report based upon 318 questionnaires mailed to industrial plants in Detroit and Wayne County.

It is believed that by soliciting the co-operation of the State Nursing Association, Manufacturers' Association and the Chamber of Commerce of each city in the state, that a standard policy can be inaugurated meeting the requirements indicated in this problem.

The question of instigating state legislation making physicians' and hospital bills prior liens against settlement of claims for damages received in automobile accidents, was thoroughly discussed. It is recognized that there is a constantly increasing number of serious automobile accidents each year, usually involving large claims for damages and disability. Statistics prove that larger sums are paid yearly for such purposes. Disagreements and court procedure cause delay in settlement in the majority of cases, requiring physicians and hospitals to wait indefinitely for payment of services.

The committee has summarized the study of these questions and herewith submits to the House of Delegates of the Michigan State Medical Society the following four resolutions, which are recommended for adoption at this session:

RESOLUTION I.

Whereas, the Civic and Industrial Relations Committee of the Michigan State Medical Society has made a comprehensive study of the question of rendering special reports for applicants for insurance to Old Line Life Insurance Companies, and

Whereas, this committee has secured enlightening data from the insurance companies which indicates that the majority of these companies provide no fee for special reports; that the majority are willing to pay such fees as are requested, and that the average amount of the suggested fee be \$2.00, and

Whereas, a physician's statement to an insur-

ance company, without the knowledge or full consent of the applicant, concerning a former illness is contrary to the principles of medical ethics and renders the physician liable for revealing confidential and professional information, therefore

Be It Resolved, that physicians charge a fee of not less than \$2.00 to Old Line Life Insurance Companies for rendering special reports of the health and physical condition of prospective applicants for insurance, the fee to be increased according to the degree of service, and

Further, that no report be given to an insurance company without the applicant's full consent.

RESOLUTION II.

Whereas, the Civic and Industrial Relations Committee of the Michigan State Medical Society has made a comprehensive study of the question of filling out claim proofs of Health and Accident Insurance Companies, and

Whereas, the responsibility for the payment of a fee to the physician for such services seems to rest indefinitely between the insurance company and the claimant, and

Whereas, the data secured by this committee from the said insurance companies reveals that only an occasional insurance company provides a fee for reports; that nearly all companies are not willing to pay a fee; that a large majority believe that physicians should supply reports for the claimant or insurance company without fee; and that if a fee be charged the claimant should pay it, therefore

Be It Resolved, that physicians charge a fee of not less than \$2.00 for each preliminary and final claim proof, the fee to be increased according to the type of service rendered, and

Further, that physicians be not required to make affidavits to statements on claim proofs.

RESOLUTION III.

Whereas, the Civic and Industrial Relations Committee of the Michigan State Medical Society has made a state-wide survey, through its county societies, of factory first-aid clinics, and

Whereas, cognizance has been taken of the report that trained nurses of first-aid departments in industrial plants have in some instances violated the Medical Practice Act by rendering medical services to injured and sick employees, in cases where a physician should have been in attendance, therefore

Be It Resolved, that the Michigan State Medical Society enlist the co-operation of the State Nursing Association, Manufacturers' Association and the Chamber of Commerce of each city in adopting a policy that no first-aid department of an industrial corporation shall have a trained nurse in charge except under the direct supervision of a licensed physician, who shall assume all responsibility for the treatment of employees.

RESOLUTION IV.

Whereas, hospital associations and physicians' organizations throughout the United States are becoming more and more interested in the problem of the constantly increasing number of serious injuries recorded in automobile accidents, and

Whereas, hospitals and physicians are in the large majority of cases not paid for services rendered to such injured individuals, and

Whereas, settlement of claims for damages are

seldom paid to injured individuals until long after complete of services, therefore

Be It Resolved, that the Michigan State Medical Society authorize its Civic and Industrial Relations Committee to enlist the co-operation of similar committees of the Michigan State Hospital Association, Automobile Associations, Chambers of Commerce and City and State Traffic Departments in making a thorough study of the problem, and

Further, that after complete and thorough study, a resolution from the combined organizations be sent to the Governor and the Michigan State Legislature at its next session, requesting that a bill be presented before that body to the effect that physicians' and hospital bills for services rendered to injured individuals be made a prior lien against all settlement of claims.

Respectfully submitted,

HARRISON S. COLLISI, M.D.,
Chairman.

The Committee,

L. A. FARNHAM, M.D.
C. D. MUNRO, M.D.
L. O. GEIB, M.D.
H. M. JOY, M.D.
G. J. CURRY, M.D.
F. G. SWARTZ,
R. H. NICHOLS, M.D.
W. DEN BLEYKER, M.D.
H. F. DIBBLE, M.D.

COMMITTEE ON MEDICAL HISTORY

To the House of Delegates, Michigan State Medical Society:

It is now expected through devoting vacation season and days of the dog, to furbishing and final touches, that material more than sufficient for one volume of the Medical History of Michigan may be placed in the hands of the Secretary before September 1st. Interesting chapters promised by collaborators are not yet prepared but will doubtless in due time be forthcoming. With them completed and forwarded the committee's function will cease, its instruction being to "compile." Its services are, however, more than cheerfully offered in the matter of proofreading. In all probability at least no harm can result from such co-operation.

Whatever the quality of the work or its reception, the Committee has had not a little enjoyment in the research incident to its construction. The matter already prepared deals chiefly with the long ago.

Dr. C. C. Clancy writes "of rendering assistance to you in your travail"—and the assistance has been admirable—that he wants "to assure" the Committee that he has "enjoyed every least little bit of the work assigned" to him.

Very respectfully,

For The Committee.

C. B. BURR,
Chairman.

COMMITTEE ON PUBLIC HEALTH

To Officers and Members of Michigan State Medical Society:

Your committee on Public Health desires to make the following report:

It is pleasing to note the hearty co-operation of the several county boards of health, city boards of health and the Michigan State Board of Health. Never has there been a time when such pleasing relations have existed between the State Board of Health and the physicians of Michigan. A great deal of credit is due Dr. Guy L. Kiefer, Commissioner of Health, for this amicable relationship. We must also give credit to the members of the State Board of Health in properly defining the work of the department.

If you will take time to peruse the new manual "for health officers" recently revised by the State Board of Health you will find that the department of health is advising the local health departments to co-operate in every way possible with the family physician and in no instance does the department of health try to usurp the family physician's interest in the case.

Let us summarize briefly the new activities this year of the department of health:

The sending of diet cards to physicians which they may use in their practice for the prevention of illness among babies. Letters to doctors which have for their purpose the control of diphtheria by getting the physicians themselves to administer toxin-antitoxin to young children.

Inasmuch as cases of undulant fever, tularemia and anthrax are very rare in the state, one member of the bureau has been assigned each of these diseases, so that he may become thoroughly familiar with it, and thus be able to render service and differential diagnosis. All reports of cases of these diseases, and all suspected cases have been visited and careful epidemiological history obtained.

The Biological Farm has increased its buildings and equipment so that all the biologicals distributed free to physicians are made in the State's Biological Plant. Cowpox virus for the prevention of smallpox will be distributed now as soon as it can be manufactured since the department was instrumental in having a law passed by this legislature providing money for the addition and equipment to manufacture cowpox virus.

A new Bureau of Industrial Hygiene has been created. The object is to keep the department in touch with what is being done in the various industries and with the permission of the industries, to act as consultant in their preventive work. One hundred industries have been visited and the co-operation has been satisfactory.

Along the line of Public Health Education, a series of five lectures by bureau heads are being made in thirty-five county normal schools. These presentations are being made by the young people who will be teaching in the schools of the counties next year. This is developing into a very fine contact, as so much of our work depends on the co-operation of school authorities.

Four full time health departments have been established along this line of work in other states.

The outstanding product of the research activities has been the development of a bacteriophage for staphylococci. This has been used by eight hundred physicians of the state and found to be satisfactory.

It is gratifying to note the increasing number of physicians availing themselves of the opportunities for specimen examinations, serum and

vaccine offered them gratis by the State Board of Health.

Yours very truly,
Public Health Committee.
J. HAMILTON CHARTERS,
Chairman.

Dr. F. C. Warnshuis,
Secretary, State Medical Society,
Grand Rapids, Mich.

Dear Dr. Warnshuis:

You will remember, last year I wrote you in reference to the work of the Committee on Venereal Prophylaxis, in which letter I discussed the problems involved and suggested that perhaps the work of this committee was obsolete. You stated it might be advisable for me to make such a recommendation. I prepared a little report which was not very specific in any way.

At the beginning of this year I wrote to the other members of this committee of venereal prophylaxis, both of whom thought that the committee was not essential and declined servicing on such a committee, consequently I have not taken any initiative or undertaken any activity whatsoever. Because of this fact there is no report to make, except that I believe that the functions which ordinarily would be undertaken by this committee are so well cared for by the State Board of Health that it is in a measure superfluous.

Sincerely yours,
W. F. Martin, M. D.

REPORT OF THE TUBERCULOSIS COMMITTEE TO THE MICHIGAN STATE MEDICAL SOCIETY

The effort of your Committee on Tuberculosis during the past year has been an effort to co-operate with other existing agencies fighting this disease. The final solution of this problem lies largely in the hands of the general practitioner. It is to him that most cases first go and it is largely upon him that the burden of early diagnosis lies. Your committee would recommend that every possible facility for studying this disease in its various forms, both for treatment and early diagnosis, be put at his disposal.

Opportunities for instruction in diseases of the chest should be made available as are the other lines of clinical medicine and surgery.

Existing agencies such as our public sanatoria, hospitals, etc., should afford him opportunity for instruction and study. An effort along this line has been made in Michigan and should be encouraged.

Respectfully submitted,
B. A. Shepard,
Chairman.

SCIENTIFIC EXHIBITS

Scientific Exhibits, well planned, add to the interest and value of Annual Sessions. Under the able direction of Dr. William M. German, Pathologist of Blodgett Hospital, Grand Rapids, the following Scientific Exhibits will be arranged on the stage of the Main Auditorium in the Elks Temple:

1. Dr. Alexander, University Hospital, "Control of Pulmonary Tuberculosis by Surgery."

2. Dr. Paul Roth, Battle Creek Sanitarium, "Spirography."

3. Dr. C. K. Hasley, X-ray Department, Detroit. Roller films: "Cin-ex Camera Studies of the Thymus in Infants and Children."

4. Dr. D. M. Cowie, University of Michigan, "The Production of Rickets in White Rats and Cure with Irradiated Ergosterol."

5. Dr. P. M. Hickey, University Hospital, "Demonstration of X-ray Prints of Pulmonary Neoplasms."

6. Michigan Department of Health, Lansing, "Preparations and Use of Biologicals."

7. Dr. Don Duffie, Central Lake, "Pictorial Demonstration of Folm's New Micro-Method for Blood Sugar Determination."

8. Dr. A. S. Warthin, Pathological Department, U. of M., Pathological Specimens.

9. Bureau of Health and Public Instruction, American Medical Association. Exhibit of Activities.

Additional Exhibits are being arranged. Do not miss seeing these Scientific Exhibits.

COMMERCIAL EXHIBITS

The following well-known and approved commercial firms will be represented in our Commercial Exhibits in the Main Auditorium of the Elks Temple:

Booth

1. Columbus Pharmacal Co., Columbus, Ohio. Representative line of pharmaceuticals, ampoules, tablets and elixirs. A house that has been in business for fifty years.
2. W. B. Saunders Co., Philadelphia. Well-known international medical publishers, who will exhibit the latest medical texts.
3. Cameron Co., Chicago. Electric diagnostic appliances.
4. Horlick's Malted Milk Co. An exhibitor for many years, who will demonstrate their product.
- 5.
- 6.
7. A. Kuhlman Co., Detroit, Mich. An old, established surgical supply house, that will meet your needs in surgical supplies.
8. Professional Underwriters Co., Grand Rapids. A reliable company that will protect you with the broadest policy against legal suits based upon professional service.
9. Victor X-Ray Corporation, Chicago. X-Rays and electrical equipment for hospitals and physicians.
- 10.
11. G. A. Ingram Co., Detroit, Mich. Surgical

- and electrical equipment and supplies. Able to supply all your equipment needs.
- 12. Medical Protective Co., Chicago, Ill. Writing medical protection policies against malpractice.
 - 13. Mead-Johnson Co., Evansville, Ind. Let their demonstrators tell you about their well-known products and also read their Journal advertisements.
 - 14. Sharp and Smith, Chicago, Ill. Surgical instruments and supplies. A house you have known for years.
 - 15. Kellogg Co., Battle Creek, Mich. Foods that will appeal to and benefit your patients.
 - 16. S. H. Camp Co., Jackson, Mich. Elastic supports, corsets and surgical supports and maternity brassieres.
 - 17. Petrolagar Laboratories, Inc., Chicago, Ill. The widely known and used mineral oil manufacturers.
 - 18. Kalak Water Co. Come in, sample and learn the uses of Kalak water.
 - 19. Laboratory Products Co., Cleveland, Ohio. S. M. A. introduced to the profession in 1921. Their representatives will demonstrate its value.
 - 20. Fisher Co., Chicago, Ill. Electric equipment and X-ray outfits.
 - 21. Swan-Myers Co. Ephedrin specialties.
 - 22. General X-Ray Co., Detroit, Mich. A complete line of X-ray apparatus and supplies.
 - 23.
 - 24.

These exhibitors all welcome you to their booths and solicit the opportunity to serve you.

REGISTRATION

The Registration Booth will be located just inside of the entrance of the Main Auditorium on the second floor of the Elks Temple. Members are urged to register, secure a copy of the official program and badge, and then visit the Scientific and Commercial Exhibits.

Make the Registration Booth and the Exhibit Auditorium your headquarters. An information booth will be at your service.

MEETING PLACES

Section meetings will be held in the several auditorium rooms in the Elks Temple and in the St. Paul's Parish House directly across the street from the Temple.

HOUSE OF DELEGATES

The sessions of the House of Delegates will be held in the main ball room, Hotel Hayes, on September 17th.

HOTELS

Hayes Hotel, No. of rooms 204 with bath				
Single	\$3.00	\$3.50	\$4.00	
Double	5.00	6.00	7.00	\$8.00

Otsego Hotel, No. of rooms 210 with bath

Single	\$2.50	\$2.75	\$3.00	\$3.50
Double	5.00	6.00	7.00	8.00

Dalton Hotel, No. of rooms 100

Single	\$1.50			
Single with bath.....	2.00	\$2.50		
Double	2.50	3.00		
Double with bath.....	3.50	4.00		

Dalvan Hotel, No. of rooms 67

Single	\$1.50			
Single with bath.....	2.00			
Double	2.50			
Double with bath.....	3.00			

Stowell House, No. of rooms 50

Single	\$1.25	\$1.50		
Single, bath.....	2.00			
Double	1.25	1.50	\$2.00	\$2.50
Double, bath.....	3.50			

Jackson Hotel, No. of rooms 40

Single	\$1.50			
Single connecting bath.....	2.00			
Single with private bath.....	2.50			
Double	2.50			
Double connecting bath.....	3.00			
Double with private bath.....	3.50			

Blackstone Hotel, No. of rooms 45

Single and Double.....	\$2.50	\$3.00		
Single and Double with bath	3.50	4.00		

Hotel Victoria, No. of rooms 48

Single	\$1.25	\$1.50		
Single with bath.....	2.00			
Double	2.00	2.50		
Double with bath.....	3.00			

PROGRAM OF THE LADIES AUXILIARY

Wednesday, September 18th

2:00 P. M.—Jackson Country club. Mrs. Guy Kiefer presiding.
Business meeting of the delegates to the Women's Auxiliary Convention.

Thursday, September 19th

1:00 P. M.—Bridge luncheon and golf at the Jackson Country club for all visiting ladies.

GARAGES

There are three large garages near the convention headquarters and the Hayes Hotel.

Temple Garage, 156 West Cortland St.....	\$1 per day
Auto Inn, 154 West Pearl St.....	\$1 per day
Hudson-Essex Co., 228 West Pearl St.....	\$1 per day

The last named garage is back of the Hayes hotel, the Auto-Inn is one block east of this, and the Temple Garage is between the Elks Temple and the Hayes hotel.

Arrangements have been made for reserved parking privileges with the police department on all streets around the Hayes hotel with no time limit but of course this is open parking with police protection but none against the elements.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

DIPHtheria IN MICHIGAN COUNTIES
IN 1928

A study of the 1928 diphtheria situation in Michigan by counties yields interesting data.

Michigan, with an estimated population of 4,500,000, had 3,725 cases of diphtheria in 1928 and 385 deaths. This gave a case rate of 82.8 and a death rate of 8.6 per 100,000 population. The fatality rate was 10.3 per 100,000 population.

Eight counties in the state had five or more deaths each. These counties, comprising 52 per cent of the population of the state, had 79 per cent of the cases of diphtheria and 81 per cent of the deaths from this disease. They are listed as follows: Genesee, Macomb, Muskegon, Oakland, Saginaw, St. Clair, Washtenaw and Wayne.

A tabulated summary of their diphtheria record follows:

- Cases—2,929.
- Case Rate—124.7.
- Deaths—313.
- Death Rate—13.3.
- Fatality Rate—10.7.

Thirty-eight counties in the state had less than five deaths each. These counties, comprising 32 per cent of the population of the state, had 17 per cent of the cases and 19 per cent of the deaths. The counties follow:

Alger	Houghton	Missaukee
Alpena	Ingham	Monroe
Antrim	Ionia	Newaygo
Bay	Isabella	Oceana
Berrien	Kalamazoo	Ontonagon
Calhoun	Kent	Osceola
Cheboygan	Keweenaw	Ottawa
Clare	Lapeer	Schoolcraft
Clinton	Lenawee	Shiawassee
Dickinson	Mackinac	St. Joseph
Emmet	Marquette	Tuscola
Gratiot	Mason	Wexford
Hillsdale	Midland	

The data on this group of counties is listed below:

- Cases—651.
- Case Rate—45.4.
- Deaths—72.
- Death Rate—5.0.
- Fatality Rate—11.1.

Thirty-seven counties of the state had no diphtheria during 1928. This group of counties included 16 per cent of the population of the state, had four per cent of the cases and no deaths. The counties follow:

Alcona	Gladwin	Mecosta
Allegan	Gogebic	Menominee
Arenac	Grand Traverse	Montcalm
Baraga	Huron	Montmorency

Barry
Benzie
Branch
Cass
Charlevoix
Chippewa
Crawford
Delta
Eaton

Iosco
Iron
Jackson
Kalkaska
Lake
Leelanau
Livingston
Luce
Manistee

Ogemaw
Oscoda
Otsego
Presque Isle
Roscommon
Sanilac
Van Buren

Only cases and case rates need to be listed in this instance:

- Cases—145.
- Case Rate—20.1.

WHOLE-TIME COUNTY HEALTH
DEPARTMENTS

The recent session of the legislature took a decided step forward in the interest of public health when it passed an act to promote the organization of whole-time county health departments. The bill authorizing the organization of departments of health for counties passed the legislature of 1927, but it was left for the last session to accompany this with an appropriation clause which makes possible a subsidy from the State Treasury for such departments. In addition to this state subsidy, there has been made available certain funds from the United States Public Health Service and from the Rockefeller Foundation.

According to the United States Public Health Service there are in the United States 2,500 counties or districts comparable to counties, in which county health departments would be highly advantageous. On January 1, 1929, a total of 467 of these counties or districts were provided with whole-time health officers. This represents an increase of 53 over the previous year.

On the average, an efficient, well-balanced whole-time rural health service costs about \$20,000 a year. The sum of \$12,000 annually is the minimum that would give such a project a fair chance for success.

It is estimated that the national economic loss annually in wage earnings and other items incident to preventable sickness in rural counties exceeds one billion dollars. Money invested in well directed whole-time county health service yields to the taxpaying public annual dividends ranging from 100 to 3,000 per cent, due to the reduction in this economic loss.

Experience indicates that the whole-time unit is the most feasible means of bringing to the rural population the ad-

vantages of modern preventive medicine. Such organizations, furthermore, serve as the nucleus around which emergency service can be developed in time of disaster. This was remarkably demonstrated in the areas devastated by the Mississippi flood in 1927.

The present plan in Michigan contemplates the establishment of whole-time county health departments in ten more Michigan counties. There are now four such units in the state. Each department will have a minimum staff of one health officer, two public health nurses, and an office assistant. Counties financially able to do so may add to this staff as their local needs may require.

In order to provide the preliminary training required of the personnel of the county health department staffs, the Michigan Department of Health is establishing a training station.

The medical profession throughout the state will be deeply interested in this program which is destined to mean a great deal to the advancement of public health in Michigan. Under this plan, health work will be conducted more efficiently and systematically, and will be under much better control than is possible under the present township plan. Wherever it has been tried it has proved to be of the greatest benefit both to the public and to the profession.

As the number of counties which can be organized is limited by the funds available, it is hoped that the various county medical societies will take advantage of the opportunity now afforded to secure one of these departments for their county. The appropriation of the local funds required depends upon the supervisors of the various counties.

D. M. G.

To observe first hand the working of a county health department, Doctors Luton and Frase of St. Johns and Doctor Bos of Wacousta accompanied Dr. Barnes of the Michigan Department of Health staff to Cadillac on July 30. The three physicians constituted a committee appointed from the Clinton County Medical Society to investigate county health department practice with a view to organizing a unit in Clinton County.

Wexford County physicians were holding their weekly luncheon meeting with the Commissioner of the Wexford County Health Department, and it afforded an excellent opportunity for questions and an exchange of opinions.

The Executive Board of the Michigan Federation of Labor, meeting in Lansing on July 7, pledged the enthusiastic co-operation of the State Federation of Labor to the department's program of full-time county health service. Dr. J. R. Carter of the Bureau of Epidemiology spoke before the board, outlining the proposed plan and describing the work already being done in Saginaw, Oakland, Wexford and Genesee counties. All of the labor papers of the state carried a resume of Dr. Carter's talk, and the board's action in endorsing the movement.

The County Medical Societies of Lapeer, Lenawee, Tuscola, and Ingham counties have voted in favor of establishment of full-time county health departments in their respective counties.

Doctor Refik Bey, Minister of Health of Turkey, and Doctor Assim Bey, Commissioner of Health of Turkey, and Doctor O. C. Hansen Pruss spent three days at the Michigan Department of Health offices recently, studying the organization and functions of the department. These men constitute the officials of the Health Department of the new Republic of Turkey. They are making an extended trip through the United States for the purpose of studying the public health organizations, with a view toward establishing a Health Department in Turkey along American lines.

CIRCUSES AND SMALLPOX

That circuses sometimes bring to a state more than joy to its younger citizens has been proved twice in Michigan this summer.

A wire was received early in the season from the Health Commissioner of Milwaukee notifying the Michigan Department of Health that a circus showing there was dropping two smallpox cases, and was enroute to Ishpeming. A telegram was immediately dispatched to the Health Officer at Ishpeming, and the circus troupe was vaccinated upon its arrival in that city.

A little later a similar communication was received from the epidemiologist of the New York State Department of Health. Two cases of smallpox were being left in Syracuse, and the circus troupe of which they were members was to open in Adrian the next day. A delegation from the Michigan Department of Health consisting of three representatives of the Law En-

forcement Division of the Bureau of Epidemiology and one of the Medical Inspectors from that bureau met the circus in Adrian and vaccinated the entire group.

BIRTH REGISTRATION STATUTE IS UPHELD

For the benefit of physicians who may not have noticed the recent decision of the State Supreme Court in the matter of the test case on reporting of births, we quote the following account from the Detroit News.

"Lansing, Mich., June 4.—The Michigan Supreme Court Monday upheld the statute requiring physicians to register births within five days.

"Dr. George L. G. Cramer, Owosso physician, was convicted of violating the act. He appealed to the Supreme Court, arguing that the provisions were unconstitutional. The physician receives no compensation for filing the certificate of birth, and Dr. Cramer took the position that since he must spend time, postage and the cost of stationery, the act confiscates property without due process of law. He contended further that the legislature unlawfully delegated legislative authority to the Department of Health, which is authorized to make regulations for the enforcement of the act.

The court found no merit in either contention. It held that the State properly can require physicians, whom it licenses to practice, to comply with the registration provisions. The power granted to the Department of Health, it ruled, is of a supervisory nature.

"Until 1925, physicians received a fee of 50 cents for each birth registration. The act was amended that year and the fee eliminated. Dr. Cramer, a veteran practitioner, since then has consistently refused to register births. Proceedings against him were in the nature of a test case."

ENGINEERING FIELD NOTES

Summer resort inspection is proceeding rapidly, with six men in the field. The inspectors travel by automobile to facilitate reaching inaccessible places, and they work on a district basis. They have instructions to cover every resort in a county before leaving that county. This means that for the first time a complete survey of all summer resorts in Michigan will be available, including both large and small resorts.

Water supplies, waste disposal and bathing beaches are investigated, and special

attention is paid to milk supplies. Every milk producer, large or small, is visited and detailed inspection made of conditions affecting in any way the safety of the supply.

More than 500 resorts were inspected during the first month. General advice on matters of sanitation and necessary recommendations are given at the time of inspection, and any situations demanding special engineering assistance are reported direct to the Bureau of Engineering for individual attention.

The summer program of highway water inspection is practically complete; with a total of 1,800 sources surveyed and tested. This is a little over 400 more than were examined last year. The percentage of safe supplies is expected to at least equal that of last summer.

IN THE MAIL

A short time ago the State Department of Health was advised that a township in one of the northern counties had been discontinued and the department wrote to the county clerk asking if this had been attached to another township, in order that arrangements might be made to take care of the births and deaths that occurred in the township. The county clerk replied as follows:

"In reply to yours of the 17th in regard to * * * township, they did not hold an election in April but no other township has taken it over and I do not know what the outcome will be, as to the *births and deaths, there will hardly be any births as there are only two persons living in the township and they are both bachelors. As for deaths, they might die I suppose. If I hear of any deaths there I will report it to you.*"

THE MID-SUMMER MEETING OF THE MICHIGAN PUBLIC HEALTH ASSOCIATION

The business session of the Mid-summer Meeting of the Michigan Public Health Association took the form of a luncheon at the Michigan Union on Saturday, July 20. There were 38 persons present.

The meeting was called to order by Dr. Carl Buck who presented for the Association's consideration several matters that had been brought up in the meeting of the Board of Directors held two weeks previously.

Dr. Buck explained the proposal of the American Public Health Association that

50 per cent of the membership of affiliated societies should be members of the American Public Health Association. He transmitted the opinion of the Board of Directors that this was an unreasonable request, and upon motion of Dr. Towne the Association members agreed.

The suggestion was presented that a speaker's bureau be formed. This would mean no extra organization since the machinery of the Joint Committee on Health Education would be utilized to furnish the lecturers requested. There would be very little expense, and this would be met out of the general funds of the Association. This plan was also approved.

Dr. Buck then presented the recommendation of the Board of Directors that the Association commit itself to the furtherance of definite projects, with the suggestion that two projects might well be the promotion of full-time county health units and diphtheria immunization. Dr. Wood of Detroit spoke on this point, urging that the Michigan Public Health Association be a leader in putting into practice Dr. Kiefer's suggestion that the practicing physicians be fully considered in the public health program. Dr. Buck assured Dr. Wood that if the association pledged itself to the furtherance of county health department practice and of diphtheria immunization, it would be carrying out Dr. Kiefer's policy. It was agreed that publicity along these two lines should be carried in the Newsletter.

The Association approved the suggestion that a committee be formed to invite papers for the winter meeting of the Michigan Public Health Association and judge the papers with a view to recommending them for presentation before the American Public Health Association.

PREVALENCE OF DISEASE				
July Report				
Cases Reported				
	June	July	July	Av. 5
	1929	1929	1928	Years
Pneumonia	488	181	186	127
Tuberculosis	555	426	270	457
Typhoid Fever	15	22	25	50
Diphtheria	402	348	210	262
Whooping Cough	782	1,021	789	675
Scarlet Fever	1,323	543	392	487
Measles	2,752	953	1,197	727
Smallpox	286	239	89	94
Meningitis	287	133	16	12
Poliomyelitis		9	1	5
Syphilis	1,396	1,508	1,085	1,169
Gonorrhea	766	948	740	887
Chancroid	42	43	10	9

CONDENSED MONTHLLY REPORT				
Michigan Department of Health Laboratories				
Lansing Laboratory—				
Throat Swabs for Diphtheria	+	—	+—	Total
Diagnosis	36	335		1,004
Release	106	110		
Carrier	16	401		
Virulence Tests	25	8		33
Throat Swabs for Hemolytic				
Streptococci				627
Diagnosis	69	141		
Carrier	11	406		
Throat Swabs for Vincent's	46	310		356
Syphilis—				
Kahn	1,323	7,716	107	9,146
Wassermann	1	4		5
Darkfield				
Examination for Gonococci	238	1,769		2,007
B. Tuberculosis—				
Sputum	62	371		433
Animal Inoculations				
Typhoid—				
Feces	6	48		54
Blood Cultures		68		68
Widals	14	65		79
Urine		10		10
B. Abortus				70
Dysentery				51
Intestinal Parasites				15
Transudates and Exudates				507
Blood Examinations (not clas- sified)				139
Urine Examinations (not classified)				329
Water and Sewage Exami- nations				1,450
Milk Examinations				103
Toxicological Examinations				2
Autogenous Vaccines				4
Supplementary Examinations				207
Miscellaneous Examinations				500
Unsatisfactory Specimens				156
Total for the month				17,355
Cumulative Total (fiscal year)				17,355
Increase over this month last year				3,844
Houghton Laboratory—				
Examinations made — Total for the Month				2,117
Cumulative Total (fiscal year)				2,117
Increase over this month last year				520
Grand Rapids Laboratory—				
Examinations made — Total for the Month				6,159
Cumulative Total (fiscal year)				6,159
Increase over this month last year				55
Typhoid Vaccine Distributed, cc.				1,840
Diphtheria Antitoxin Distribut- ed, units				13,479,000
Diphtheria Toxin Antitoxin Dis- tributed, cc.				11,650
Silver Nitrate Ampules Dis- tributed				7,408
Scarlet Fever Antitoxin Dis- tributed, packages				18
Scarlet Fever Toxin Dick Test Distributed, cc.				1,000
Scarlet Fever Toxin Immu- nization Distributed				663
Smallpox Vaccine Distribut- ed, points				3,315
Bacteriophage Distributed, cc.				1,444

THE JOURNAL

OF THE

Michigan State Medical Society

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Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M. D., Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

SEPTEMBER, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

CONTRIBUTED PAPERS

A word of explanation is due both the contributor as well as the reader of papers which appear each month in medical publications. The Journal of the Michigan State Medical Society is no exception. Sometime it is found impossible to publish contributions for months and occasionally over a year after receiving them. This is particularly true of papers read at the State and other medical societies. We might also add that it is universally true so far as the national medical publications are concerned. One prominent medical writer said that his paper did not appear until over a year after the date on which he had submitted it for publication and during that time part of that data had become so obsolete that he was reluctant to claim it as his own. It is a rare case in which we have had to hold papers for a

year. In the very few cases in which this has happened the author has been given the opportunity to revise his paper so as to represent his views at the time of publication. We make this explanation in as much as papers read a year ago have only recently been submitted to the author for correction and revision of his proof so that the paper as published may be considered as representing the author's views at the time.

HOSPITAL COSTS

"Hospital costs are a spectre that will not be exorcised except by honesty and patience. The "high price of living" seems to have given place to the "high price of sickening" as a topic of conversation. People who think nothing of paying ten dollars a day for a hotel room illogically consider eight dollars a day for a hospital room robbery and extortion. The old myth about the very rich and very poor being the only people who can afford to be sick persists. About half of the talk about huge hospital bills is bragging. The inescapable fact is that it is cheaper to be well than to be sick. When the public gets this idea strongly, sickness will diminish. Ad interim, the public should be taught how and why hospital operation costs money. Anything good costs money. The people deserve the best when they are sick or well; they demand the best when they are sick or well; they do not object to paying for the best when they are well; why should they object to paying for the best when they are sick? A little practical propaganda along these lines will do much good."—Modern Hospital.

This is a curious bit of reasoning. In the first place there are very few people who pay \$10 a day for a hotel room. The majority of people who find their way sooner or later into hospitals never stay at hotels, or remain only a day or so in rooms that cost half the amount mentioned. Regarding the "old myth" about the very rich and very poor being the only people who can afford to be sick, it is not a "myth" at all, it is a fact, but we will await the finding of the National Committee on the Cost of Medical Care before making any hard and fast statement as to where the blame lies. The writer of the editorial in Modern Hospital cannot see "why people should object to paying for the best when they are sick" when they demand the best when they are well. When one is well he pays for only that which he can afford. It may not be the best and in the majority of instances is not the best. However, when one is sick he is weakened not only in body but also in mind; his outlook is very much shadowed. He sees his earning power temporarily and probably indefinitely suspended and naturally he

wishes to reduce all expenses to the minimum.

Again hospitals being tax exempt with rooms more or less endowed as compared with hotels (the suggestion of the hotel is from Modern Hospital) the patient is at a loss when he finds his bill more than that which a first class hotel would charge a guest. There may be good reasons for high hospital costs but our contemporary has failed to state them.

A few weeks ago a campaign was held in one of the larger cities of this state for the express purpose of providing hospital accommodation to reduce hospital cost to the salary earner with income between \$2,500 and \$5,000 a year. The sum asked for was subscribed within record time with comparatively little effort, which in itself shows that in the minds of many people the providing of hospital accommodation for people of moderate means does not belong to the realm of myths.

BUREAU OF INDUSTRIAL HYGIENE

This Journal contains each month a department which has been contributed by the Commissioner of Health of the State of Michigan. These articles have not been too long and it is hoped that the readers have perused them each month. They have contained a great deal of important information on a great variety of subjects of interest to the membership of the Michigan State Medical Society.

It seems fitting, however, that emphasis should be placed upon the contribution from the State Department of Health which appeared in the June number of this Journal. We have from time to time advocated a more thorough study, with whatever regulation seemed wise, of health as affected by employment in industries and mercantile establishments particularly in the larger cities of the State of Michigan. Michigan has become one of the most industrialized states of the Union. Already there are many unsolved health problems affecting the industrial worker. A Bureau of Industrial Hygiene has been created as part of the Medical Department of Health, and the duty of the Bureau will be to give special attention to such problems; or to be more specific (quoting from the June Journal) the function of the Bureau will be:

1. To study the general progress of health service in industries in relation to the various influences that affect the physical and mental well-being of men and women in their employ.

2. To note the types and extent of health serv-

ice best adapted to Michigan industries, dependent upon their size and the nature of work conducted.

3. To aid in devising and establishing generally accepted standards for practical application of hygiene in industries.

4. To secure data on important items such as occupational diseases and industrial hazards.

5. To establish consulting and advisory relations with health departments of industries; to serve as an exchange medium for procedures proved to be most effective in health promotion and care.

6. To supervise the collection, preparation, and distribution of pamphlets, bulletins, and other material for education in industrial hygiene.

7. To aid in establishing co-operative relations between health departments of industries and local health departments, medical societies, and district nursing, welfare and educational units.

The report of the findings of the Bureau of Industrial Hygiene which we will look for from time to time, will constitute interesting reading and among other things will probably indicate more clearly the relation of the independent physician to factors growing out of industrial medicine.

PREHISTORY IS YOUNG SCIENCE— JUST 99 YEARS OLD

The science of determining what went on in the world before men started the writing of history is just 99 years old, Dr. George Grant MacCurdy, of Yale University, reminded the American Philosophical Society at its recent session in Philadelphia. The zero milestone of the science of prehistory was set by C. J. Thomsen of Copenhagen in 1980 when he established a system of chronology for prehistoric ages based on the development of human industry in stone, iron, and bronze.

The years 1857 to 1861 were important ones. The discovery of primitive human bones at Neanderthal, Germany, was announced in 1857. The following year came the joint communication of Darwin and Wallace regarding the perpetuation of varieties and species by means of natural selection. In 1859 Darwin's "Origin of Species" was published. The same year scientists agreed that the crudely chipped stones found along the valley terraces of the Somme River must have been made by men of remote antiquity, and soon after that came the realization that a reindeer bone with pictures of wounded animals cut into it was really a specimen of the art of ancient men.

"Before the science of prehistory could be developed it had to await the prior development of geography and geology as well as comparative anatomy," Dr. MacCurdy stated. "It was a bit of great good fortune that the discovery of the human bones at Neanderthal did not take place during the Middle Ages."

One of the big problems of prehistory is to gain an increase of knowledge regarding ancient man in Asia and Africa in order that Old-World prehistory as a whole may be correlated, Dr. MacCurdy stated. To this end, he said, the American School of Prehistoric Research has obtained permits and is already exploring and excavating jointly with the British in Iraq and Palestine. Another great problem is the correlation of human remains with the various phases of the Ice Age.—Science Service.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

THE AMERICAN BOARD OF OTOLARYNGOLOGY

An examination was held in Portland, Oregon, July 8th, during the meeting of the American Medical Association. Thirty-seven applicants appeared for examination with 11 per cent failures.

The next examination will be given on Monday, October 21st in Philadelphia, preceding the opening of the meeting of the American Academy of Ophthalmology and Otolaryngology in Atlantic City.

Prospective candidates for certificates should address the Secretary, Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha, Nebraska, for proper application blanks.

The Mississippi Valley Conference on Tuberculosis will hold its annual session in Grand Rapids September 18-20. A program for physicians is to be given on September 20th and therefore will not conflict with our Jackson meeting. Members attending the Jackson Annual Meeting will do well to spend September 20th in Grand Rapids attending this conference.

The American Dietetic Association will hold its 12th Annual Meeting in the Hotel Statler, Detroit, on October 7th to 11th.

See the official program of our Annual Meeting published in this issue. Put a circle around the dates, September 17, 18 and 19 and plan to go to Jackson to attend this session.

Our editor, Dr. J. H. Dempster, has been touring England and the continent during the months of July and August. He will return the first week in September.

Dr. Guy L. Kiefer, Lansing, spent the month of August at his cottage in Mackinaw City.

President Hirschman celebrated his birthday on August 15th, but would not impart his age. He acts it though.

We are informed that Dr. J. T. Case has resigned his position with the Battle Creek Sanitarium, effective September 1st. Dr. Case will do full time research work in Chicago.

If the Regents elect the new president of our state university before our Annual Meeting an invitation will be extended to the new president to participate in the program of our first General Session.

Dr. Tew of Bessemer has been appointed by Governor Green as a member of the State Board of Registration in Medicine.

Dr. J. D. Brook, Grand Rapids, submitted to a cholecystectomy on August 10th. He made a good recovery.

MANKIND TO TAKE CHARGE OF OWN FUTURE EVOLUTION

Man, until now almost as passive a plaything of the evolutionary forces as the animals beneath him, may in the future be expected to take a hand in the directing of his own development.

This was the central theme of an evening address by Dr. Ales Hrdlicka, anthropologist of the U. S. National Museum, before the meeting of the American Philosophical Society here.

"Man has given and still is giving a vast amount of thought to his life after death, but only relatively little to his future on this earth," said Dr. Hrdlicka. "The latter attitude, however, is undergoing a substantial change, due to the teachings of evolution.

"When the most earnest and competent students of man are asked 'What about human evolution,' they can only answer that, while many of the details are still unknown or uncertain, and while here and there an impatient scientific worker may express some revolutionary hypothesis, nevertheless, in general, of all the major natural facts, none today is better documented and better established."

Man will be able to do something toward the shaping of his new body, but his greatest influence will make itself felt in the evolution of his mind, the Washington scientist declared.

"Man will slowly become ever more a helper and in a sense a co-creator in his further evolution, particularly that of his sensory and mental faculties; and the knowledge of this will furnish, begins already to furnish him, with mighty new criteria of conduct, the criteria of what will be advantageous and what adverse to this further evolution.

"The actual future changes of man can be foreseen for only a limited time to come. They will affect his stature, skull, facial parts, teeth, some of the internal organs, his arms, hands and feet; but the principle acquisitions will be, there is a strong probability, those of a higher organization, with higher effectiveness and endurance, of the brain and the sensory as well as the nervous system.

"The more important of the changes, particularly those of the brain, can not be realized easily. There are many obstacles and dangers ahead and the road of advance will be littered, as in the past and now, by the unfit.

"As to the more distant future of man, no legitimate deductions are possible."—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

PRESIDENT L. J. HIRSCHMAN

The office of President of our Society is not alone an honorary one. It is an active one. To be elected to this office is an honor but coupled with the honor there is entailed a large amount of work, contribution of time and considerable absence from home. The President is expected to attend the monthly sessions of the Executive Committee. He is invited and expected to participate in a goodly number of Post Graduate Conferences, Councilor Dis-



trict meetings and special meetings of county units. The President is expected to join with the Secretary and attend several important conferences with other state lay and administrative organizations when the profession's interests are involved. When the Legislature is in session the President joins with other officers and committees making frequent trips

to Lansing to interview legislators. Lastly there is considerable correspondence to be answered.

Time was when our President in return for the honor conferred, simply appointed a few committees and delivered his Presidential address. But as times have changed and our Society has embraced a goodly number of diversified activities, our Presidents have been called upon for no small amount of work, time and absence from their practice.

This has been especially true during the past year that has been characterized by an exceptional increase in Society activity. The demands made upon our present President has been most exacting. We were fortunate indeed that the incumbent was Dr. Louis J. Hirschman, who responded unflinching to every demand and call that was made upon him. It is impossible to enumerate the instances or compute the time that Dr. Hirschman contributed. There was scarcely a week that did not record some call or some duty that devolved upon President Hirschman and to which he responded unflinching.

As an organization, then we are deeply indebted to Dr. Hirschman for the thoroughness with which he assumed and discharged the duties of his Presidential office. Our debt cannot be fully liquidated with words. We tender our words of thanks and remind President Hirschman that the more adequate remuneration will be found by him in the knowledge and memory that he served faithfully. That by reason of that faithful service he has enhanced and contributed to our collective interests and that the people of our state as well as our members are the beneficiaries of his devotion to duty and the commendable manner in which he discharged his official obligations. Such services carry their own rewards and Dr. Hirschman thus acquires them with our warmest good wishes.

THE ANNUAL SESSION

The annual meeting, to be held in Jackson, Sept. 17, 18 and 19th should command the interest of every member. The offi-

cial program will be found in this issue. Turn to it and note the splendid scientific sectional programs. There isn't a member that can afford to forego this opportunity to hear these instructive papers and discussions. Plan to be present.

Delegates: The House of Delegates convenes on September 17th at 10 a. m. Delegates elected to represent their county societies have a definite obligation to be in their seats at the first roll call. Attention is directed to the annual reports published in this issue. Delegates should read these reports in order to act most intelligently when final action is taken upon these reports.

The Jackson profession, our hosts, have planned many enjoyable functions and are eager to make your visit most pleasant and profitable. You are urged to accord them this opportunity by being present at this annual session. Determine now to attend.

INVITED GUESTS

The following distinguished invited guests will participate in the program of the Jackson Annual meeting. We are indeed fortunate in having this group headed by Dr. Wm. Gerry Morgan of Washington, D. C., President-elect of the American Medical Association. Dr. Morgan will deliver an address at the first general session. The following guests will take part in the section programs:

Section on Medicine—

F. A. Willius, Rochester, Minn.

Wm. Engelbach, St. Louis, Mo.

Pediatrics—

F. W. Schultz, Minneapolis.

B. S. Veeder, St. Louis, Mo.

Gynecology and Obstetrics—

M. E. Davis, Chicago.

Surgery—

D. C. McKenney, Buffalo, N. Y.

G. E. Brown, Rochester, Minn.

Eye, Ear, Nose and Throat—

J. S. Barnhill, Indianapolis.

Robert Sonnenschein, Chicago.

H. W. Woodruff, Joliet, Ill.

INFANT MORTALITY, 1928

In the consideration of infant mortality for the year 1928 it is found that the rate was higher than the rate for 1927. In 1928 there were 6,806 deaths of infants under one year of age and 97,462 births, giving an infant mortality rate of 69.8 deaths under one year of age per 1,000 living births.

In 1927 there were 6,766 deaths of children under one year of age and 99,940 births, making an infant mortality rate of 67.7 deaths under one year of age per 1,000 living births.

It will be observed that while there was only a slight increase in the number of deaths in 1928 over 1927, there was a material decrease in the number of births.

It is, of course, very easy to speculate as to the cause of this increase in the rate. Probably most physicians in the practice of medicine would find some explanation for it, but a study of the facts is much better than any amount of speculation and we have tried to find out just where the cause lies.

We have divided these deaths into 24 important causes and we find in 14 of these causes there has been an increase in the number of deaths and in 10 of them a decrease. This is shown in the following table:

Table Showing the Number of Deaths Under One Year of Age From Certain Causes, 1927-1928

Cause—	1927	1928	Inc.	Dec.
Measles	14	83	69	.....
Scarlet Fever	12	6	.....	6
Whooping Cough	128	130	2	.....
Diphtheria	11	18	7	.....
Erysipelas	51	44	.....	7
Meningitis, Epidemic	14	29	15	.....
Tuberculosis	63	57	.....	6
Syphilis	66	61	.....	5
Disease of Thymus	108	114	6	.....
Meningitis, Simple	32	45	14	.....
Convulsions	60	68	8	.....
Disease of Ears	54	64	10	.....
Bronchitis	85	88	3	.....
Broncho-pneumonia	656	771	115	.....
Lobar Pneumonia	267	271	4	.....
Influenza	122	175	53	.....
Diarrhea and Enteritis	791	682	.....	109
Malformations	743	687	.....	56
Congenital Debility	381	364	.....	17
Premature Birth	1,909	1,846	.....	63
Injury at Birth	441	460	19	.....
Other Early Infancy	269	239	.....	30
Violence	103	91	.....	12
All Other	386	412	26	.....
Total	6,756	6,806	351	311

Attention is invited particularly to the following items: It will be observed that there was an increase of 69 deaths from measles. It is well known that measles is a disease of marked periodicity and that the disease is exceedingly fatal to young children. The year 1927 happened to be a low year; 1928 a high year.

Epidemic meningitis showed some increase of prevalence in 1928 and accounted for an increase of 15 deaths.

The most important group, however, to be considered is in the diseases of the respiratory system, including influenza. It will be recalled that a rather sharp outbreak of influenza began in October and gradually increased until early in December it assumed epidemic proportions. The

most common sequels of fatal cases of influenza is either bronchitis, broncho-pneumonia, or lobar pneumonia and it will be observed that all of these diseases showed an increase. Bronchitis showed an increase of three deaths, broncho-pneumonia of 115, lobar pneumonia and pneumonia unspecified 4, and influenza of 53.

In each cause of death in the group commonly referred to as diseases of early infancy there was a decrease, with the single exception of "Injury at Birth" which showed an increase of 19 deaths.

Among the other diseases showing a decrease were scarlet fever 6 deaths, erysipelas 7, tuberculosis 6, and syphilis 5. In the group of diseases which are recognized as peculiarly amenable to good public health work is diarrhea and enteritis, and this cause showed a decrease of 109 deaths.

In the infantile group congenital malformations showed a decrease of 56 deaths, congenital debility of 17, premature birth of 63, and other early infancy of 30. As stated above injury at birth showed an increase of 19. Violence in various forms showed a decrease of 12 deaths.

When it is considered that the increase in the number of deaths for 1928 over 1927 was only 40 and that this increase is more than off-set in the increase in the number of deaths from measles (69), in broncho-pneumonia (115), and influenza (53), it is believed that the showing for 1928 is quite satisfactory, from the standpoint of public health practice.

GOOD WORK

As a result of the recent activities of the Civic and Industrial Relations Committee of the Michigan State Medical Society, Drs. Earl Miller, Executive Secretary, L. O. Geib, H. F. Dibble and others of the Wayne County Medical Society, met in Detroit on July 12th with the Health and Accident Managers Club. At this meeting the following resolutions were adopted:

1. That the Health and Accident Managers Club believed that physicians should be paid a fee (a) by the claimant when he had to prove disability and (b) by the insurance company when it was a matter involving the protection of the company, when an affidavit was required or when special information was requested.

2. The club was also in favor of instituting legislation to make physicians', nurses' and hospitals' bills prior liens

against all settlement of insurance money for such claims.

At the present time, insurance companies will honor assignments when made by the claimant in favor of the physician against settlement for claims. This last information should be noted and used by physicians from this date on in an endeavor to secure assignments in their favor from patients at the time of filling out final claim proofs or upon discharge of the case.

The Civic and Industrial Relations Committee of the Michigan State Medical Society request that during the next year each county society endeavor to secure the co-operation of health and accident insurance companies, as has already been done by Wayne County.

Hospitals, physicians and nurses are at the present time, and especially during the summer months, being taxed to the limit and required to render services to injured individuals, and in the large majority of cases do not receive compensation. It is only by unified action of hospitals and physicians that ultimate legislation can be secured in solving this problem.

A. M. A. ANNUAL MEETING

The Eightieth Annual Session of the American Medical Association was held in Portland, Oregon, July 8 to 12, 1929.

The House of Delegates convened at 10 a. m., July 8, and was called to order by the speaker, Dr. F. C. Warnshuis of Michigan.

The minutes of the Seventy-Ninth Annual Session were approved as printed. The annual addresses of the Speaker, the President and the President-elect were heard by the House and referred to the Reference Committee on Reports of Officers. These addresses appeared in The Journal of the American Medical Association for July 20, 1929. Reports of the Board of Trustees, of the Secretary, of councils and of other standing committees were submitted to the House and referred to reference committees.

That part of the report of the Board of Trustees dealing with the need for a new building to house the activities of the Association was referred to a special committee appointed by the Speaker on authorization of the House.

HISTORY OF THE AMERICAN MEDICAL ASSOCIATION

Dr. William Allen Pusey, delegate from Illinois, submitted a resolution providing for the appointment of a committee by the Board of Trustees to direct the preparation and publication of a comprehensive history of the Association. This resolution, having been referred to the Board of Trustees, was recommended for adoption and the recommendation was approved by the House of Delegates.

PRACTICE BY CORPORATIONS AND OTHER GROUPS
AND THE RELATIONSHIP OF PHYSICIANS
THERETO

Dr. William Allen Pusey, delegate from Illinois, presented a resolution providing that the Judicial Council of the Association be asked to present to the House of Delegates at the annual meeting in 1930 a comprehensive statement for the guidance of the American Medical Association concerning the practice of medicine by corporations, by clinics, by philanthropic organizations, by industrial organizations, by demonstrations and by similar organizations, and concerning the relationship of physicians thereto.

This resolution was considered by the House of Delegates in executive session. The resolution was adopted.

HOME FOR INDIGENT PHYSICIANS

Dr. J. Norman Henry of Pennsylvania submitted the report of a special committee appointed to study the need for the establishment of a home for needy physicians. This report was referred to the Board of Trustees and was recommended for adoption. After discussion by several delegates, the recommendations of the Board of Trustees were approved, and the report of the committee adopted. The report of the committee advised against the establishment by the Association of a home or homes for indigent physicians and expressed the opinion that "it is not, nor should it be, a function of the American Medical Association at this time to undertake the care of indigent physicians in any way."

LISTS OF PHYSICIANS IN CLASSIFIED TELEPHONE
DIRECTORIES

Dr. G. Henry Mundt, delegate from Illinois, submitted a resolution providing that when publishers of classified telephone directories impose a charge for listing the names of ethical physicians in such directories, component county medical societies of the American Medical Association be advised to discontinue such listings in classified directories. The Reference Commit-

tee on Legislation and Public Relations, to which this resolution was referred, recommended the adoption of the resolution, and the recommendation of the Reference Committee was approved by the House of Delegates.

ENDORSEMENT OF THE METHODS OF THE DEPARTMENT OF COMMERCE IN THE SELECTION
OF MEDICAL EXAMINERS

Dr. Albert Soiland, delegate from California, submitted a resolution providing that the American Medical Association should endorse "the medical work of the Department of Commerce, its methods of physical examination and its method of selection of medical examiners, and urges that the same high standard be continued and offers the support of the American Medical Association in furthering the specialty of aviation medicine." This resolution, referred to the Reference Committee on Hygiene and Public Health, was favorably reported and was adopted by the House of Delegates.

DANGERS OF ILLUMINATING GASES AND GASES
USED IN ELECTRICAL REFRIGERATION

Dr. J. W. Van Derslice, delegate from Illinois, submitted a resolution providing for the appointment by the Board of Trustees of a committee to study and report on the menaces to health and to life from carbon monoxide gas as a constituent of illuminating gas and as a by-product of the combustion of gasoline in automobiles; on the dangers of gases used in electrical refrigeration, and on steps necessary to be taken for the protection of the public. This resolution, referred to the Reference Committee on Hygiene and Public Health, was adopted by the House.

TEACHING OF OBSTETRICS

Dr. James R. Bloss, delegate from West Virginia, presented a resolution providing that the Council on Medical Education and Hospitals be asked to investigate the present teaching of obstetrics in the United States and to seek readjustment of the curriculum so that hours allotted to teaching of obstetrics be equal to those allotted to the teaching of surgery. The Reference Committee on Medical Education recommended the amendment of the resolution as presented by Dr. Bloss so that it would provide that the House of Delegates request the Council on Medical Education and Hospitals to investigate the present teaching of obstetrics "and make such recommendations for increasing the clinical teaching hours of obstetrics as the results of its investigations may warrant." On

motion of Dr. Mundt of Illinois, seconded by Dr. Mongan of Massachusetts, the resolution was re-referred to the Reference Committee on Medical Education. At a later session this Reference Committee recommended the adoption of the following resolution:

Whereas, The time allotted for the teaching of obstetrics in the curriculums of the several medical schools has been cut down and is inadequate to drill the student thoroughly in this important major, be it

RESOLVED, That the House of Delegates request the Council on Medical Education to investigate the present teaching of obstetrics in this country and make such recommendations for increasing the clinical hours of obstetrics as the results of its investigations may warrant.

The resolution as amended by the Reference Committee was adopted by the House of Delegates.

ADVERTISING HOSPITALS

Dr. Burt R. Shurly, delegate from the Section on Laryngology, Otology and Rhinology, presented a resolution providing that inasmuch as some hospitals, municipal and otherwise, have advertised in the daily press "and have given to the public stories of their special excellence and efficiency as compared with other hospitals," such advertisements be collected by the Council on Medical Education and Hospitals and that the "question of hospital advertising be given due consideration and reported to the House of Delegates at the next annual meeting and the rating of hospitals be affected according to the unethical advertising published."

The Reference Committee on Medical Education, to which this resolution was referred, recommended the amendment of the resolution as introduced by Dr. Shurly so that it would read as follows:

RESOLVED, That any physician observing such advertisements be requested to send them to the Council on Medical Education and Hospitals for its information and use in the rating of hospitals.

The resolution as amended was adopted.

DIGEST ON PHYSICAL THERAPY

Dr. Joseph F. Smith, delegate from Wisconsin, presented a resolution providing that the Board of Trustees be requested to have prepared by the Council on Physical Therapy a digest setting forth the basic

principles underlying the employment of physical agents and their mode of action on living tissue, and to publish this digest in a form which would be available to physicians. The Board of Trustees reported to the effect that a handbook of the kind provided for in the resolution is already in the course of preparation.

NEEDS OF SMALL HOSPITALS

Dr. T. O. Freeman, delegate from Illinois, submitted resolutions providing that the Council on Medical Education and Hospitals be ready to make a survey of the needs of smaller hospitals, to render all possible assistance to such institutions desirous of improving their system of records and their services to the public, and to offer its assistance to state registration departments to the end that such departments may secure such aid as they desire in connection with their classification of accredited hospitals. The Reference Committee on Medical Education, to which this resolution was referred, reported to the House of Delegates that in its opinion the investigation begun several years ago and now being carried on by the Council on Medical Education and Hospitals would fulfill all the objects of the resolution, and that the Reference Committee believed that the Council stands ready to give all possible assistance to small hospitals in solving their problems. The Reference Committee recommended that the resolution be not adopted, and this recommendation was approved by the House of Delegates.

DIRECTION OF RED CROSS NURSES BY CULTISTS

Dr. J. C. Litzenberg, delegate from Minnesota, submitted a resolution adopted by the Minnesota State Medical Association, disapproving the policy of the American Red Cross in officially authorizing Red Cross nurses to nurse patients under the care of cultists. The Reference Committee on Legislation and Public Relations recommended that the American Medical Association disapprove any change in policy by the American Red Cross whereby the nurses of that organization would be available for service to patients under the care of cultists, and that the Secretary of the Association communicate with the proper officials of the American Red Cross and advise that organization of the attitude of the House of Delegates. The recommendations of the Reference Committee were adopted.

The special committee, to which that part of the report of the Board of Trus-

tees dealing with the need for a new building for housing the activities of the Association was referred, expressed its conviction that it is desirable for the Association to have a building "that would be visible evidence of the dignity, importance and power of the Association," and recommended that it should be left to the Board of Trustees to perfect plans for providing the building.

This committee also expressed the opinion that the subscription price of The Journal is now relatively greatly below the price of other journals that approximate it in extent and quality, and suggested that the Board of Trustees should consider the question of increasing the subscription of The Journal.

A third recommendation of the committee was to the effect that it would be appropriate for the Board of Trustees, in a building program, to solicit memorial contributions, both large and small, from members of the Association. The committee expressed its conviction that as the Association shows increased evidence of strength and permanence it will gradually become the recipient of an increasing number of memorial contributions.

The report of the special committee was adopted by the House of Delegates.

Later in the proceedings, Dr. William Allen Pusey, delegate from Illinois, introduced a proposed amendment to the By-Laws providing that the subscription price of The Journal shall not exceed \$8.00. This proposed amendment was adopted by the House, and the Board of Trustees is thereby authorized to increase the subscription price of The Journal to a sum not in excess of \$8.00 a year.

PERIODS OF PRACTICAL EXPERIENCE FOR MEDICAL STUDENTS

Dr. E. J. Goodwin, delegate from Missouri, presented a resolution that had been adopted by the Missouri State Medical Association providing that medical schools be encouraged to arrange for periods of practical experience for students with practitioners of high standing, preferably in rural communities and that the Council on Medical Education and Hospitals be instructed to consider the plan proposed by the Missouri State Medical Association and, if the plan is found to be feasible and beneficial, the Council be urged to encourage medical schools to "inaugurate suitable methods for providing these vacation periods of practical experience for their students." The Reference Committee on

Medical Education reported favorably on this resolution, and it was adopted by the House of Delegates.

SAFETY OF MILK FOR HUMAN CONSUMPTION

Dr. A. T. McCormack, delegate from Kentucky, submitted a resolution providing that "it is the sense of the American Medical Association that the determination of measures necessary for insuring the safety of milk for human consumption is a duty and function of the medical profession through the duly constituted public health officials of this country." The Reference Committee on Hygiene and Public Health recommended the adoption of the resolution and this recommendation was approved by the House of Delegates.

COMMITTEE ON MILITARY AFFAIRS AND NATIONAL DEFENSE

Dr. H. C. Mallory, delegate from the U. S. Army, presented a resolution providing for the appointment of the Board of Trustees of a special permanent committee to be known as the Committee on Military Affairs and National Defense, to which shall be referred matters pertaining to national defense and military preparedness. The adoption of this resolution was recommended by the Board of Trustees and this recommendation was approved by the House of Delegates.

NATIONAL DEFENSE ACT OF 1920

Dr. Holman Taylor, delegate from Texas, introduced a resolution providing that the American Medical Association, through its House of Delegates, go on record as heartily approving the National Defense Act of 1920. The Reference Committee on Legislation and Public Relations reported the resolution favorably, and it was adopted.

INCREASED TARIFF ON SURGICAL INSTRUMENTS

Dr. Albert Soiland, delegate from California, submitted a resolution providing that the House of Delegates record its opposition to the passage of a bill providing for increased tariff on surgical instruments, X-ray equipment, vacuum tubes, valve tubes and scientific glassware. The Board of Trustees recommended the adoption of the resolution, and the House of Delegates approved this recommendation.

STANDARDS OF PHYSICAL FITNESS OF AUTOMOTIVE OPERATORS

Dr. H. C. Macatee, delegate from the District of Columbia, presented a resolution setting out that relatively few accidents occur because of defects of sight and

hearing and providing that the House of Delegates "consider the advisability of amending the present standards of physical fitness of automotive operators, adopted by this Association, by the adoption of standards of mental and moral fitness to be recommended for adoption by the several states as a condition or issuing licenses to operate motor vehicles, and that this resolution be referred to a special committee for consideration and report at the next annual session." The Reference Committee on Hygiene and Public Health recommended the adoption of the resolution. On motion of Dr. G. Henry Mundt, delegate from Illinois, the resolution was amended by deleting a statement in the preamble to the effect that relatively few accidents occur because of defects of sight and hearing. The resolution as amended was adopted.

MEDICAL EXPERT OPINION

Dr. Tom B. Throckmorton, delegate from the Section on Nervous and Mental Diseases, submitted the following resolutions, which had been approved by that Section:

Whereas, The House of Delegates of the American Medical Association has previously expressed its dissatisfaction with the present status of medical expert opinion evidence and has expressed its approval of the efforts of the American Bar Association and of the various bar and medical societies to correct by remedial legislation and by changes in court procedure the present undesirable features of the introduction of such evidence, and

Whereas, The American Psychiatric Association and the National Crime Commission are devoting much study to the subject of such evidence, particularly as relates to psychiatric matters in criminal cases, with a view to improving procedure, and

Whereas, The Criminal Law Section of the American Bar Association has appointed a committee to collaborate with a committee of the American Psychiatric Association in formulating plans for bringing about a betterment of the present undesirable situation, and

Whereas, Such efforts are of vital interest and importance to the entire medical profession, be it therefore

RESOLVED, That the House of Delegates of the American Medical Association express its continued interest in the correction of the abuse of medical expert opinion evidence, and that it offer to the American Bar Association, the American Psychiatric Association, and the National

Crime Commission, the various state and county medical and bar associations, and such other reputable organizations as are actively pursuing efforts directed toward such correction the assistance and co-operation of the American Medical Association in promoting the passage of appropriate legislation and in bringing about suitable changes in court procedure with reference to such evidence, and be it further

RESOLVED, That the House of Delegates approves the principle of securing in the case of all capital charges and in the case of as many other criminal charges as the psychiatric facilities of the state will permit an impartial and routine mental examination of the defendant in advance of the trial as a means of obviating the contentious introduction of partisan testimony, and that it approves further the principle of removing as far as possible the question of sanity from the trial itself, reserving the employment of psychiatric data for a post-trial inquiry to determine what treatment is appropriate to the convicted person, and be it further

RESOLVED, That a copy of this resolution be forwarded to the American Bar Association, the American Psychiatric Association, and the National Crime Commission.

On motion of Dr. Throckmorton, seconded by Dr. A. T. McCormack, delegate from Kentucky, and after discussion by various members of the House, these resolutions were adopted by the House of Delegates.

RESOLUTION FROM SECTION OF DERMATOLOGY AND SYPHILOLOGY

Dr. F. W. Cregor, delegate from the Section on Dermatology and Syphilology, submitted resolutions providing that treatment for hypertrichosis by the tricho system and by allied systems employing radiation be condemned as highly dangerous to the patient, and "that all cases presenting the effects of this type of treatment and seen by members of the medical profession be reported to the Bureau of Investigation of the American Medical Association." The resolutions were adopted.

AMENDMENT TO THE PRINCIPLES OF MEDICAL ETHICS

The Judicial Council, in its report to the House of Delegates, recommended that Section 3, Article VI, Chapter II of the Principles of Medical Ethics be amended by submitting the following:

COMMISSIONS

Sec. 3.—When a patient is referred by one physician to another for con-

sultation or for treatment, whether the physician in charge accompanies the patient or not, it is unethical to give or to receive a commission by whatever term it may be called or under any guise or pretext whatsoever.

This recommendation of the Judicial Council was adopted by the House of Delegates, and the Principles of Medical Ethics were so amended.

MESSAGE FROM PRESIDENT OF WOMAN'S AUXILIARY

Dr. J. H. J. Upham, member of the Board of Trustees, presented a report from the Woman's Auxiliary to the House of Delegates submitted by its President, Mrs. Allen H. Bunce of Atlanta, Georgia, and this message was accepted by the House and made a part of its records.

ELECTION OF OFFICERS

The following officers were elected:

President - Elect, William Gerry Morgan, Washington, D. C.

Vice President, Ernst A. Sommer, Portland, Oregon.

Secretary, Olin West, Chicago.

Treasurer, Austin A. Hayden, Chicago.

Speaker of the House of Delegates, F. C. Warnshuis, Grand Rapids, Michigan.

Vice Speaker of the House of Delegates, Albert E. Bulson, Fort Wayne, Indiana.

Member of the Board of Trustees, D. Chester Brown, Danbury, Connecticut, re-elected.

Member of the Board of Trustees, Allen H. Bunce, Atlanta, Georgia, to succeed E. H. Cary, Dallas, Texas.

The President, Dr. M. L. Harris, made the following nominations for standing committees:

Judicial Council, James B. Herrick, Chicago.

Council on Medical Education and Hospitals, M. W. Ireland, Surgeon General, U. S. Army; James S. McLester, Birmingham, Alabama.

Council on Scientific Assembly, Lewis H. McKinnie, Colorado Springs, Colo.

These nominations by the President were confirmed by the House of Delegates.

HONORARY FELLOW

Dr. Josef Jadassohn of Breslau, Germany, was nominated for Monorary Fel-

lowship by the Section on Dermatology and Syphilology, and this nomination was approved by the Council on Scientific Assembly. Dr. Jadassohn was elected to Honorary Fellowship by the House of Delegates.

PLACE OF 1930 ANNUAL SESSION

Detroit, Michigan, was selected as the place for holding the next annual session of the American Medical Association in 1930.

MINUTES OF THE EXECUTIVE COMMITTEE

The August meeting of the Executive Committee was held in Grand Rapids at 6:30 p. m. on August 15, 1929.

Present: Doctors R. C. Stone, B. R. Corbus, J. D. Bruce, F. C. Warnshuis.

1. A communication from Dr. J. B. Jackson of Kalamazoo relative to conflict of the dates of our Annual Meeting and that of the American Roentgen Ray Society was read.

2. A communication from Dr. Richard Burke relative to Post-Graduate Conferences in the Upper Peninsula was read. On motion of Drs. Corbus-Bruce, it was voted to conduct this conference during the second week of October.

3. A communication from Dr. Guy L. Kiefer relative to Dr. Neil S. Mac Donald, who is a candidate for the Directorship of the Veteran's Bureau at Washington, was read and was referred to the meeting of the Council to be held in connection with our Annual Meeting.

4. A communication from President Hirschman relative to his interviews with the directors of the Michigan Children's Fund was read and referred to the meeting of the Council in September.

5. The Secretary reported in detail relative to the arrangements that have been perfected for the Annual Meeting. These were approved and the Secretary instructed to consummate them.

6. The Secretary raised the question of publicity in advertising of extraneous organizations holding meetings in this state. Upon motion of Doctors Corbus-Bruce, the Secretary was instructed to withhold publicity and support only those organizations that are in direct contact with the County, State and the American Medical Association.

7. Upon motion of Doctors Bruce-Corbus, the Secretary was instructed to

recommend to President Hirschman that the following members constitute the Committee on Awards:

Doctors Wm. M. German, J. B. Jackson and Richard R. Smith.

8. The Secretary presented the preliminary draft of the Annual Report of the Council to the House of Delegates. This was discussed paragraph by paragraph. Upon motion of Doctors Bruce-Corbus, the Secretary was instructed to supply each member of the Council with a copy of this Annual Report before the first session of the Council at 6:30 p. m. September 16, 1929, in Jackson.

9. Upon motion of Doctors Bruce-Corbus, the Secretary was instructed to notify the members of the Legislative Commission to meet with the Council on September 16th and discuss its annual report that is to be presented to the House of Delegates.

10. Upon motion of Doctors Bruce-Corbus, the Secretary was instructed to advise the members of the Council that the first session of the Council will be held in the Hayes Hotel at Jackson at 6:30 p. m., September 16, 1929.

The meeting adjourned.

F. C. Warnshuis, Secretary.

MEETING OF INDUSTRIAL PHYSICIANS

President Gorsline and Secretary Poole have designated Tuesday, September 17th at 4:30 p. m. as the time for holding the Annual Meeting of the Michigan Association of Industrial Physicians and Surgeons in Jackson.

This meeting will be in conjunction with our Annual Meeting but will not conflict with the official program.

An interesting program has been prepared. A cordial invitation is extended to every industrial physician to attend this annual session.

BERRIEN COUNTY

The June meeting of the Berrien County Society was held at the Edgewater Beach Hotel in St. Joseph on June 26th.

An excellent chicken dinner was served to about 32 members and guests.

The speaker of the evening was Dr. Coulter of Flint in charge of the newly formed health unit of Genesee county. Dr. Coulter's talk dealt rather extensively in the purpose and theory of the county health unit. Following his talk an informal discussion of the Grosse Pointe Health Unit was given by Dr. Warren of Grosse Pointe village.

Dr. Warren gave the practical side of a centralized health unit from his observations and experiences with the health organization at Grosse Pointe.

Following these talks a general discussion of the county health unit as applied to Berrien County, was carried on by most of the members present. A motion was then made and carried that the Berrien County Society at their July meeting give over the entire session to a discussion of the county health unit and then vote on the project.

The July meeting of the Berrien County Society was held at the pavilion in Berrien Springs with a 6:30 dinner on Wednesday evening, July 31st.

About 35 members were present and the meeting was an open discussion of the county health unit. The discussion was general and arguments pro and con were brought out.

A motion was then made and supported that the Berrien County Society vote on the adoption of a health unit.

The project was unanimously accepted and a committee appointed consisting of Dr. C. A. Mitchell of Benton Harbor, Dr. C. N. Sowers of Benton Harbor, and Dr. H. G. Bartlett of St. Joseph.

This committee to act with the staff board of health in presenting the idea to the county board of supervisors at their October meeting.

W. C. Ellet, Secretary.

OAKLAND COUNTY

Dr. James J. Murphy and Lawrence Moloney were low men in the Oakland County Medical Society and Bar Association golf tournament held Thursday afternoon at the Glenoaks Country Club. The tourney was followed by the annual combined dinner of the two groups at which 93 were present.

"Booby" prizes for the afternoon's play went to James J. Lynch, president of the Bar Association, and Dr. Francis I. Bloise for the medical men. In the blind bogey competition prizes went to Donald Patterson, Ralph Keeling and Leigh Bombar, lawyers, and to Dr. Frank Mercer, Dr. Harry Sibley, Dr. E. V. Howlett and Dr. B. M. Mitchell. The score for Dr. Murphy, low man for the doctors, was 82 while Maloney went around in 85.

Prizes were presented and the Bar Association quartet entertained after the dinner. The quartet was composed of A. Floyd Blakeslee, H. A. Balser, Curt W. Augustine, and Charles Webster. Dr. L. A. Farnham acted as toastmaster.

C. A. NEAFIE, Secretary.

HILLSDALE COUNTY

The regular Joint Meeting of the Medical Societies of the counties of Branch, St. Joseph and Hillsdale was held at the Country Club, Hillsdale, Friday, July 19 at 6:30 P. M., the President, Dr. E. C. Bechtol in the chair.

After a good dinner the meeting came to order and the President introduced the speaker of the evening, Prof. Trout of Hillsdale College, who gave a very interesting address, "The Relation of Psychology to Medicine," which was listened to with closest attention by all.

After some questions which were answered by Prof. Trout, Dr. Green read the very instructive report of a case of cerebrospinal-meningitis. This

report was especially valuable in showing the splendid results of treatment by intraspinal injections of antimeningococcic serum with complete recovery.

Dr. Barnes of the State Department of Health, was then introduced, who explained the advantages of a County Health Unit and urged the Societies to continue their labor in behalf of such a unit.

The members present gave a rising vote of thanks to Prof. Trout for his very instructive address after which a motion to adjourn prevailed.

D. W. Fenton, Secretary.

"EVIDENCE OF MALPRACTICE"

One of the most pernicious bills which it has been proposed to enact into law in Michigan is one which would define what shall constitute prima facie evidence of negligence of physicians and surgeons in actions for malpractice. A part of this bill follows:

"Section 1. In every action for malpractice brought against any physician, surgeon or osteopath, if plaintiff shall establish that defendant was employed, and, treated or administered to plaintiff in his professional capacity, and, that plaintiff sustained damage as a result thereof, it shall be deemed prima facie evidence of defendant's negligence and that he did not exercise ordinary care, knowledge and skill in the administration of such treatment."

We are advised that the effect of this bill would be to throw the burden of proof on the defendant in any action for malpractice, which would be contrary to present practice. Thus if any patient died immediately after a treatment or operation such result would constitute prima facie evidence of negligence and for its refutation, would require proof of competence and proper care. The bad effects of such a law are many and serious. First it would discourage all advances in medical treatment and surgery, for every physician, realizing the possibility of suit, would use only such methods as could be shown to be customary and of proven value.

Another unexpected development would be the physicians' refusal to attend charity patients, for who would be so rash as to risk suit for malpractice, with the odds all against him, without hope of remuneration. Emergency care rendered to any unknown person would become highly hazardous for any physician under such a law, for any untoward outcome following his care would constitute prima facie evidence of malpractice.

The idea of holding a physician responsible for any unfavorable outcome is not a new one. History records many instances of physicians who paid with their lives when they failed to cure ills of the mighty. Gutram, King of Burgundy, having employed two surgeons to attend the Queen, who died, had them executed on her tomb. The surgeon who failed to cure the blindness of John of Bohemia was thrown into the Oder, the surgeon who failed to keep Pope John XII alive was flayed

for his trouble. The notorious ingratitude of royalty was rewarded when Dr. Radcliffe was sought for Queen Anne who was dying. Radcliffe, knowing well the rewards of final attendance on crowned heads sent word that he had taken physic and could not come.

The aim of the bill apparently is to make it easier for badly treated or disgruntled patients to secure damages from their physicians. Although it is intended to protect the public it would really have an opposite effect. Physicians practicing under such legislation would be most elusive when most needed.—Wayne County Medical Bulletin.

ELEVEN NEW TYPES OF PNEUMONIA GERM FOUND

Eleven types of pneumonia not hitherto recognized as due to distinct forms of pneumococci, the pneumonia germ, have been discovered by Georgia Cooper, bacteriologist in the research laboratories of the New York City Department of Health, according to Dr. William H. Park, director of Laboratories. Dr. Park also said that specific antibacterial serums have been developed for the most usual five of these new types, although sufficient experience with them has not yet been obtained to affirm positively the apparently good results from their use in a limited number of cases.

The remaining six types, he said, constitute about 3 per cent of all cases studied. Thus Type III is the only important form of the disease which remains apparently resistant to antipneumococcic serum.

"Serums which greatly improve the chances of a patient, especially when given early in cases in which the blood stream is becoming infected with pneumococci, have been developed for Type I and Type II," explained Dr. Park.

"While we are working continuously to find a serum that will be effective in Type III cases, we have not yet succeeded. In the past we have classed cases which did not fall into Type I, II or III in a miscellaneous group known as Group IV. We have known for some time that this group contained other distinct types which had not been classified, but it remained for Miss Cooper to classify eleven of the most important of this miscellaneous group. Those which we cannot classify are now known as group XV.

"Dr. Antoinette Raia, who has conducted research in connection with children at Bellevue Hospital, has made preliminary reports which indicate the value of serum in Types IV, V, VI, VII, and VIII. Her work also indicates that these types are more usual with children than adults."

Polyvalent serum, or serum effective in both Type I and II, has been prepared for the New York City Health Department for distribution for some time, but the attempt is now being made to prepare serum which will be effective as well for Types IV, V, VI, VII and VIII. Dr. Park advises the administration of polyvalent serum at once when the clinical diagnosis indicates pneumonia.

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PRESIDENTIAL ADDRESS—SOME OF OUR PROBLEMS

LOUIS J. HIRSCHMAN, M. D.

DETROIT

Mr. President, Members of the Michigan State Medical Society, Honored Guests, Ladies and Gentlemen:

I would be guilty of the basest ingratitude, if in return for the evidence of your trust in my ability to serve you as your President during the year just closed, I should inflict upon you an address of such length as to act more as a soporific than a stimulant. I have in common with most of you in the past been lulled to peaceful slumber by the monotonous drone of a long-winded pseudo-scientific and pseudo-altruistic presidential address. In order to secure your attention to this brief report of my stewardship and to a few suggestions as to our future activities, born of experience, gained while acting as your chief executive during the past year, I promise to be brief.

LEGISLATION

The health of the people of Michigan during the past year has been menaced as never before in our history by the endeavors of cultists, irregular practitioners and enemies of scientific medicine to open the doors to the practice of the healing arts to the incompetent, the unprepared, the ignorant and the malicious.

In an endeavor to strengthen our existing medical laws and to provide for bet-

ter preliminary qualifications for all of those who wish to practice any of the so-called "healing arts," a "professional qualifications act" as well as certain amendments to strengthen our present medical laws were introduced at the last session of the legislature. The results of the insidious propaganda against all things medical which was engendered, propagated and supported by non-medical schools of healing, was evidenced by the most unfair, unjust and nefarious methods of attack.

There seemed to be an almost united effort opposed to any legislation which was designed to protect the health of the people of Michigan from the efforts of

non-medical systems of treatment to esconce themselves firmly in our fair State.

The secretary of your society, your legislative commission, the councilors and particularly the State Commissioner of Health, worked in perfect harmony with your president at all times during the trying period of the legislative session. In our darkest hour when vicious and dangerous bills passed both Houses and threatened to become laws, the Governor of our state fearlessly stepped into the breach and with a clear and appraising insight into the possibilities of the situation, prevented a serious calamity to the health of our people by the judicious use of his veto power.

All honor to Governor Green for his courageous and life-saving action! Some very important lessons in political technic and legislative policy were learned by those of us who were actively engaged in the campaign, and the education thus received will be of great value when needed in future medico-legislative activities.

Just so long as the people at large remain in ignorance of ordinary anatomical, physiological and medical facts and know so little about their bodies and bodily functions, just so long will the unscrupulous and improperly prepared practitioner prey on their credulity.

The medical profession is not altogether blameless in this lack of public knowledge on matters of health. It is true that we have made a gesture in the right direction by joining hands with other health organizations in this state in extending the field of public instruction in health matters. Our participation in health lectures to high school and college students is one step in the right direction and the work of the committee in maintaining a health column in the daily press is another opening wedge in the campaign of instruction of the laity.

Every member of the Michigan State Medical Society should consider himself an evangelist in matters of health and medicine. He should not only accept the opportunity to acquaint the laity with the fundamental facts of disease prevention and hygienic living, but should go further and create such contacts with lay groups whenever possible. The laity must be acquainted with the facts that it is to their interest to see that medical laws are passed which will prevent them from being victims of practitioners and practices which

have not stood the test of scientific investigation.

The altruistic interest of the natural guardians of health, the medical profession has been seriously questioned by materialistic-minded legislators. Through contacts with the public press, chambers of commerce, luncheon clubs, parent and teacher associations and other civic, fraternal, educational and religious groups, a better understanding of health conservation, disease prevention and scientific curative measures can be presented to those people whom these things most affect.

It is fervently hoped that opposition in the future to dangerous health legislation will be sponsored by such organizations. Our profession, particularly as represented by the Michigan State Medical Society, will always be in the forefront of the fight and the same old guard who have never been found wanting in any crisis, will be found in the front line and will always be at the service of the people of Michigan.

SOCIAL MEDICINE AND MEDICAL ECONOMICS

In many gatherings of medical men, whether in the hospital staff rooms, or following medical society meetings, after the subject of golf, fishing, dogs, oil wells and the stock market have been exhausted, the conversation is sure to drift, sooner or later, to the subject of "state medicine."

In several European countries, particularly England, Germany and Norway, quantity production methods in medical practice sponsored by the governmental or mutual benefit sources are in existence at the present time. Reports both pro and con, on the results of this form of practice clearly indicate that it could never be very successful if actually tried in this country.

The practice of the healing arts is so peculiarly and necessarily a matter of the individual relation of the physician to the patient that any plan of medical practice which smacks of paternalism or "mass production" would not only be repugnant to the American conception of service, but would be disastrous in the results achieved in most of the individual cases.

That there is a demand by the public for a better quality of diagnostic service in some quarters, and for a more reasonable plan for both diagnostic and therapeutic service with or without hospitalization in other quarters, is quite evident. That there is a decided inequality in the compensation between the services of the gen-

eral practitioner and the specialist is also quite evident! That there is a growing unrest on the part of the "man who pays the freight" regarding the increasing costs of medical care is also evident! That the general practitioner of medicine, especially in rural communities is overworked and underpaid in many instances is also evident!

All of these questions which are awaiting solution are closely tied up with the question of the supply of physicians to the demand of the public for medical services. The mounting costs and increased length of courses leading to medical degrees, is also a tremendous factor in this question.

The competition of clinics and hospitals, publicly supported or partially so, in some parts of our state has been a very serious problem with which the physician has had to cope. In cities and educational centers especially, the whole question of the operation of clinics, whether free, part-pay or private, whether operated by the state or county authorities or municipality, is intimately connected with the whole problem of not only rendering adequate service to the people at a reasonable cost to them, but also with the problem of giving the practitioner of medicine, who has struggled so many years to secure his medical education, a living wage!

The widening gap between medical income and medical out-go, increased professional and living expense, and clinic competition has again brought to the fore the spectre of division of fees and the payment of commissions. In order that our profession be not allowed to degenerate from its high ideals of unselfish service to the plane of commercialism and trades unionism, we must take an active part in the study of all these conditions which menace the high reputation, the good name and very integrity and successful future of our profession.

I firmly believe that by far the great majority of patients who seek the services of free clinics legitimately belong there. While I am convinced that every physician has suffered some loss of specific patients who wrongfully and fraudulently secured free treatment from philanthropic institutions when they were well able to pay for the same, that in the aggregate these cases are decidedly in the minority.

The methods of the social service departments of these clinics as a rule are often open to criticism. The mistakes and injustices which do occur are usually

traced to bad judgment or the inefficiency or inexperience of some individual workers. While rankling under unfair alienation of private patients by clinics in a few instances, members of our profession must not go to the other extreme and insist that the people who can legitimately afford to compensate very little, if any, for medical services, deprive themselves of other necessities in order to pay a misproportioned bill for medical services.

The pauper and indigent must always be cared for at public expense and medical organizations must be maintained for this purpose. Clinical experience for the medical student can be amply furnished from these sources.

It is not the business, the prerogative or the right of the state or any municipality to ever accept private patients for pay when such treatment is available for these patients by private practitioners of medicine in their home communities!

RURAL PRACTICE OF MEDICINE

The law of supply and demand is very much out of joint in connection with the practice of medicine in our smaller communities. The demand for medical care is acute, insistent and serious. There are many thousands of our citizens residing in small villages, hamlets and on isolated farms whose lives are placed in jeopardy because of the absence of near-by medical assistance. The urban trend of population has had its effect in draining the smaller communities of their physicians as well as of other inhabitants. The compactness and apparently more remunerative condition of city practice, along with the advantages of hospital facilities has attracted most of the young graduates of medicine to the cities.

The compulsory internship, unfortunately, has imbued most of the younger graduates of medicine with the idea that the practice of medicine must be conducted only, or largely, amid hospital surroundings. It is true that a well equipped hospital is of inestimable value to the patient and renders the services of the physician far more efficient to him. The medical graduate of today feels that he must have a larger market for his wares than the rural district provides. As a result when the older practitioner of the community passes on to his reward, that community is left without medical assistance.

The medical graduate of today, after his pre-medical, academic, medical, interne and resident training in a large modern hospital, is seeking larger fields to conquer

than the small rural community affords. He is a super-trained individual, an "expert" in the uses of all of the facilities of the hospital and the laboratory and feels the need of all of the many mechanical and instrumental methods of precision. The resident of the small community is entitled to just as good and thorough medical care as the urban dweller. Admittedly this can be best administered in a modern and well-equipped hospital. The educational problem in small communities has been solved by the formation, consolidation and utilization of community schools. Instead of the "little red school house upon the hill" of the days of yore, the youth of today is educated in a modern school with modern equipment and a thoroughly trained personnel.

This condition must also prevail with relation to the care of the sick in the small community. A group of villages or counties, if necessary, must combine and provide a modern hospital at a central point, easily accessible to all parts of its district. Funds must be provided either by taxation, private philanthropy or some large philanthropic foundation or a combination of any of these. It is just as logical and proper for a community to provide a hospital for its citizens to receive medical attention from their private physicians, as it is for the same community to furnish a court house for its citizens to receive the services of their private attorneys.

The indigent thus can be cared for nearer their homes by the county or township, while private patients receive the care of their private physicians.

With the rapid extension of good roads in our state and the universal use of the automobile, an ambulance can bring a patient into much closer contact with his hospital thirty miles away, in quicker time than it formerly took for the physician in his one-horse shay to make a call of five miles.

Good roads and the automobile, with a centralized community hospital, make available a far better service in the community or county than could possibly be rendered under the old conditions. Our county societies must take the initial steps in their respective communities to institute the erection and maintenance of such hospitals.

With the charming community life and the ideal conditions under which to practice, which obtains in the small town, it will be very easy to attract the graduate of medicine and he will soon realize how

much more fortunate he is than his fellow classmate practicing in a metropolitan district.

It is sincerely hoped that the State Board of Registration in Medicine will soon find it possible to allow substitution of bedside and office training under a qualified preceptor, for at least a portion of the time now devoted to internship and hospital training. This is the only way in which the coming practitioner of medicine can really be trained in bedside medicine, under conditions under which a large portion of his practice will be conducted particularly, but not necessarily, in small communities. He will learn how to meet situations arising in the patient's home, particularly with reference to his attitude to—and his management of—the various members of the patient's household. He will also make contacts which will be of great value to him later if he decides to locate in the town in which he has served this apprenticeship.

INDUSTRIAL AND CIVIC RELATIONS

On account of the rapidly growing field of industrial medicine and the increasing activities of the medical profession as a result of the increasing interest in preventative medicine, by both the profession and the laity, our contacts with civic organizations, industrial corporations and insurance companies are becoming more frequent.

Manufacturing concerns and commercial institutions in general are learning that efficiency of their employes is in direct ratio to their condition of health. Some organizations can show by graphic charts that funds expended for physical examinations and prompt attention to diseases discovered in their early stages as a result of this activity, have really been of definite economic value.

The increased efficiency of individual employes, the curtailing of absences as a result of illness, the decrease in labor turnover, the lessening of industrial accidents, have been shown to have actually saved considerable sums of money for the corporation as well as increasing the quantity and quality of its output.

The employment of the part or full-time physician has opened new and increasing fields of opportunity for our profession. The pitfall to be avoided in industrial medicine is the temptation to carry this medical activity too far, and to lead to group or contract practice.

If, instead of being satisfied with a

physical examination of the employe and sending him to the family physician for treatment, the corporation physicians attempt to prescribe for and treat him, he is heading straight for social medicine and competition with private practitioners.

This subject must be given considerable consideration by our committee on civic and industrial relations. Another matter which I am glad to report is that they are now studying the increased practice of insurance companies to request medical reports from physicians based on their opinions, the result of their experience with individuals whom they have treated. This medical advice is of great value to the insurance company who seeks it in determining the insurability of an applicant.

The physician should no longer submit to being imposed upon to furnish reports without proper recompense. That the work of your committee will be crowned with success is the fervent hope and expectation of your President.

POST-GRADUATE COURSES

The work of the committee on post-graduate conferences as evidenced by the success of our district post-graduate conferences has proven beyond a doubt that this activity of the society was a much needed and most welcome one.

Every year there have been more requests for the extension of this work than the limited funds at the disposal of the committee would allow. In May and June of this year comprehensive courses of four weeks each in medicine and surgery, including their various specialties, were given in Detroit. A nominal registration fee was charged each attendant on this course in order to assist in defraying the actual expenses incurred. From the expressions of many members of the Michigan State Medical Society who attended these courses they were very well received. Those who took part in the instruction were enthusiastic and efficient. The material was ample and it is believed that the success of this activity will lead to an extension of the work during the coming year.

To those who attended the courses, the teaching staff, and particularly to the committee on post-graduate instruction, great credit is due for the wonderful co-operative spirit which was evidenced during the entire course.

During the coming year the post-graduate program of our society is going to be materially extended. In order to improve

and safeguard the health of the coming generation, the Michigan State Medical Society is now in a position to render a valuable service to the children of Michigan. Special groups are to be organized to bring to the various parts of the state all the latent information and knowledge at the disposal of the profession in all branches of pediatrics, orthopedics, immunology and medical and surgical diseases affecting the health of our children.

I am pleased to announce at this time that the co-operation of the Children's Fund of Michigan has been secured for this work. Through the munificent gift of Senator James H. Couzens a large sum of money has become available annually in order to improve the welfare of the race, as expressed in the maintenance of health, happiness and prosperity of its children.

The trustees of the Children's Fund of Michigan have approved our program for post-graduate instruction along the lines which will be of benefit to children, and a sum of money will be available this year to meet the actual expenses of this commendable activity.

All honor to our big-hearted fellow-citizen who has again demonstrated to the world that one of the greatest gifts granted to those who possess great wealth is the joy of making others happy by judiciously directed philanthropy. We are proud to number Senator James H. Couzens as a citizen of Michigan, a friend of the needy and a public benefactor.

A WORD TO THE LAITY

To those of my audience who are not members of the medical profession, all that I have said about some of our problems may or may not be of interest. Please remember, however, that the problems of the medical profession are your problems as well. All that we are striving for is to improve not only our own ability to keep you well, and to restore your health when you are not well, but also to improve the conditions under which we all are living.

As citizens of the State of Michigan, who are desirous of bettering not only their own health, but the health of the generations to come, whatever makes for a higher type of medical practice should be of the greatest interest to you. The medical profession, by its peculiar knowledge of matters of health and sanitation, are but pointing the way. Legislatures, after all, are composed of human beings, and legislators are only too prone to obey the mandates or wishes of their constituency. When this constituency speaks with

the voice of authority, obedience is much more apt to be achieved. Therefore, when you, as laymen, are asked to support proposed medical legislation we, as medical men, ask you for your own sakes to lend not only a willing ear, but a willing hand in its support.

The cry of the opponents to health legislation is that the medical profession is supporting this legislation as a matter of self-interest. The members of our profession are accused of trying to perpetuate a so-called "Medical Trust"—yet this profession, which is supposed to be so selfish and self-interested, is constantly striving to improve living conditions so that there will be less illness and fewer accidents and consequently the cutting off of their own incomes.

The average member of the medical profession is constantly giving freely of his thought, his time, and his skill, to heal the sick whether they are in a position to recompense him for his service or not, it makes no difference. Many, in fact, most of the members of our profession are caring for nearly as many patients gratis, as they are being paid for. A large number who are engaged in clinical work are giving a larger proportion of their time gladly and freely to destitute patients, than they are to those who are able to properly compensate them. Many of the laity believe that physicians and surgeons who care for hospital staff patients, are either on a salary or receive some recompense from the hospital, the municipality or the state for their services. It may or may not be a surprising fact to some in my audience that many patients who, even when able to pay a hospital for their housing, board and nursing, pay nothing to the physician who brings them back to normal health and restores to them their power to earn their daily bread. Many of the laity do not know that the great majority of physicians give of their time, freely, to teach medical students and nurses, in order that they may become proficient in their professions, and be of service to suffering humanity, without any thought of recompense for the many hours spent in the class room and the clinic.

The sick and afflicted poor are always certain of good medical attendance at all times. The medical profession individually and collectively, since time immemorial, have been ready and willing to respond to the call of distress. When the time comes that any member of our profession

fails to heed that call, then he has ceased to be a real physician.

If members of the medical profession were actuated solely by self-interest and mercenary motives, would they act as advisors to various philanthropic organizations? Would they serve without recompense on various township, county, municipal and state boards of health? Would they take full medical charge of the infants' and orphans' asylums and homes for the aged? Would they, at the risk of their lives from infection, treat medically or operate upon patients suffering from loathsome, highly contagious disease in the charity wards of our large hospitals? Would they respond in the time of pestilence or national disaster to the call of the Red Cross or other like agencies, to relieve the sick and the suffering? They certainly would not, and never have they failed to respond!

In the great World War, over seventy thousand out of the one hundred and forty thousand physicians in this great land volunteered to take their place in the ranks of our nation's fighting men, and were the first of any of the professions to organize a Reserve Corps of the army or navy. A large proportion of this number were beyond military age and had dependents for whose care and support they were responsible. The first casualty in the American army was a medical officer. Does this record smack of self-interest or mercenary motives?

Have members of the various non-medical groups of practitioners and healers, or of the various religious cults, including healing among their various activities, been conspicuous by their gifts of service and time, even at the risk of their lives, to the suffering poor in their communities, or to their country in times of distress? I beseech you, therefore, when members of your County Medical Society come to you for aid in ridding your community of quacks, charlatans and advertisers, who are leeches preying on the fear and agony of mind produced by physical and mental suffering, to help and support your County Medical Society in their efforts.

Another matter upon which I would like to say a word is that of "Medical Advertising." The reason that the medical profession frowns down upon and disapproves medical advertising and medical advertisers, is that they know that one cannot advertise his wares or his ability and stick to the straight and narrow path of truthfulness and modesty. An adver-

tisement, whether of medicine or anything else, must proclaim that the wares of the individual offering the same are better than some one's else. The medical advertiser must, therefore, claim that he is a better doctor than the others. Many incorporated institutions, who advertise their wares and their services to the public in order to prove that they are better than anyone else, often guarantee their cures.

While the manufacturer of an automobile or of a watch may guarantee his product, he does so because he, himself, has made the article. He furnished and assembled and tested his product, and is in a measure responsible for its performance. Up to the present time, however, no man or combination of men has ever yet been able to manufacture a human being and until such time arrives he is not in a position to guarantee anything about this human being, his health, or his diseases.

When a medical man guarantees a cure, he immediately stamps himself as a falsifier, a criminal and one who is not to be trusted with the health or life of your loved ones. The very fact that such an individual finds it necessary to sell himself to his prospective patients by promising a guarantee, weakens his standing at once in the eyes of any intelligent person. So in advertisements, of medicines, cures, symptoms, methods and institutions, the more flamboyant the claims put forth, the more diseases that are claimed to be cured, the more unreliable and the more unscrupulous and more dangerous are the sponsors thereof.

I trust that the medical members of my audience will pardon this digression, but these facts which, to you, my colleagues, are so well known, must be brought to the attention of our friends of the laity at occasions such as this. I trust that you will bear with me for emphasizing this matter at this time. To you members of the lay audience I wish to present this reminder. A manufacturer can leave his factory, a merchant his store; when he takes a

needed vacation his income continues; when a physician seeks a needed rest his income stops, but "Old Man Overhead" goes on working just the same. When the merchant makes out his income tax report he charges off depreciation and obsolescence on his plant for each year it is in service. When a physician makes out his income tax report, he can charge no depreciation or obsolescence on his body or his skill, and these wear out in service just the same as the machinery in the factory. While the physician preaches hygiene sanitation and good health to his patients, on account of his many hours of work exposed to the elements and to disease, his life average is less than that of most any other calling.

If what I have told you about this subject has awakened in your mind some little idea of the spirit of service and self-sacrifice with which the medical practitioner is imbued, I am content. I trust that when the accusation of "trades-unionism", of "medical trustism", or lack of altruism is made against our profession you will give a thought to some of the activities of your physician along the lines of self-sacrifice, human service, and the love of mankind.

There are many problems and activities of our organization which I would like to discuss with you at this time, but I promised you that I would not unduly prolong this address.

In conclusion, therefore, I wish to again express my deep appreciation for the confidence and trust which you placed in me by selecting me as your presiding officer during the past year. Rest assured that the labor entailed in carrying out your wishes has been a labor of love.

If I can retire at this time, with the feeling that the term now closed has left the affairs of the Michigan State Medical Society and the profession of our state in no worse condition than it was at the end of the previous administration, I will feel no embarrassment nor hesitancy in turning over the office to my distinguished successor.

THE RADIUM SITUATION

Two additional Senate bills, having to do indirectly with cancer, may come before the Senate Committee, which is this fall investigating the feasibility of governmental aid in fighting cancer on all sectors. These two bills will have to do with the encouragement of renewed radium production in this country. At the present time, it is charged that a Belgian monopoly holds the price of radium up to \$70,000 per gram, though it can

be produced there for \$10,000 per gram.

Bureau of Mines investigations indicate that American radium could be extracted from ores in Utah and Colorado for \$22,000 per gram.

Secretary of Commerce Lamont is opposed to governmental development of the radium business, but believes that private enterprise should take advantage of its opportunity in Colorado and Utah.—Science Service.

DIAGNOSIS OF PERITONITIS IN INFANCY AND CHILDHOOD

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The subject of "Peritonitis in Infancy and Childhood" is not a new one. The older clinicians recognized the clinical manifestations and the morbid anatomy almost as accurately as we do today. Some of the older clinical descriptions attract one's attention by their precision of clinical observation and by the minuteness and finess of description. Although our knowledge has been widened by bacteriologic contributions, the fact still remains that so far as diagnosis is concerned, peritonitis in young life remains even today a veritable terra incognita. Thus we acknowledge that the diagnosis of peritonitis in young children presents numerous difficulties and its recognition is not always easy.

The etiologic factors in the production of the disease and the modes of response of the young organism to this infection present numerous variations from that which occurs in later life. The course of the disease in infants and young childhood is usually rapid and severe, and collapse from circulatory weakness is an early symptom.

In this paper it is proposed to discuss some of the most important diagnostic features of the acute inflammatory diseases of the peritoneum which occur during childhood.

Many of the causes of peritonitis and abdominal pains which are frequent in adult life, such as gastric ulcer and cancer, pancreatic necrosis, tabetic crises, gall-stones, kidney-stones, colic of vesical calculus and diseases of the adnexa, are rare or do not occur in early childhood. It should be stated at once, however, that perforation of gastric or duodenal ulcer is not unknown in infancy and should be considered as a possible causal factor in obscure peritonitis. In the same way diverticulitis, inflammation of the female genital tract, blows and injuries to the abdomen, may be assigned as the occasional cause of a peritonitis.

In children under two years of age inflammatory lesions of the peritoneum are comparatively rare, but peritoneal irritation and inflammation due to intestinal obstruction are relatively more common.

In the statistics of Beekman*, peritonitis was due to intestinal obstruction in 48 cases and to direct inflammation of the peritoneum in 3 cases in children under 2 years of age. In a group of children between the ages of 2 and 12, peritoneal in-

flammation occurred in 326 patients and obstruction occurred only in 3.

PARTICULAR CHARACTERISTICS OF PERITONITIS
IN YOUNG LIFE

In somewhat older children, the symptoms of acute peritonitis do not differ markedly from those in adult life.

Acute diffuse peritonitis is probably the most painful of all diseases and *pain* is the most frequent subjective symptom. It may be absent, or slight, if the parietal peritoneum is not involved. In those cases where there is considerable inflammation in the deeper structures of the abdominal cavity *tenderness on pressure* may be slight or absent. When the peritoneum is diffusely inflamed all movement is painful, and other symptoms of peritoneal irritation occur, such as tenderness, rigidity of the abdominal muscles, vomiting, constipation in older children, diarrhea in young infants. If perforation of an abdominal viscus occurs, pain follows almost immediately; it is violent in character, and, as Dieulafoy has said, "feels like a knife in the belly." Cough, hiccough, vomiting and breathing increase the pain. The abdominal wall becomes rigid as a board. Nature attempts to protect the abdominal contents and the inflamed peritoneum against painful movements. The type of breathing is thoracic instead of abdominal.

The *temperature* rises, though in young infants the temperature fluctuation may be slight. Very often the rectal temperature is one or two degrees higher than a carefully taken axillary temperature. In severe forms a low temperature may occur, especially when the patient is on the verge of collapse.

The *reaction of the circulatory apparatus* and the significance of the pulse is of the utmost importance. The pulse is rapid, small, soft and quite irregular. The rapidity of the pulse is out of proportion to the height of the temperature. Some authors note that in those cases where bile escapes from a perforated gall-bladder or

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* Arch. Ped. December, 1925.

from a ruptured liver, saturating the peritoneum with biliary matters, the pulse becomes unusually slow.

In acute peritonitis *vomiting* is one of the early symptoms. Indeed it occurs in almost every case. Persistent emesis indicates that the peritoneal process is extending. A cessation of vomiting indicates that the process has become securely walled off by adhesions. At first the patient expels his gastric contents, then bile and eventually fecal matter.

Singultus is due to a variety of causes. In association with other symptoms it is characteristic for peritoneal inflammation and when it persists it indicates a diffuse involvement of the peritoneum.

If the process progresses to the point of toxemia and circulatory disturbances, indicating a septic process, the "Hippocratic facies" occurs. This is usually an expression of the terminal state. Emaciation increases, the features are pinched, the face presents a haggard expression, the eyes sink, the skin is dusky, the extremities become cold. The tongue is usually dry and coated. The mind remains clear. The vomitus becomes greenish in color, later brownish in color. The vomiting continues to be frequent but no longer violent or projectile. On account of the atonic or paralytic condition of the bowel ileus results and obstipation appears. Towards the end, symptoms of collapse become manifest, the pulse becomes rapid and imperceptible. Many patients remain conscious until the end.

For the purpose of clarity and description a brief plan is submitted for consideration of some of the most important varieties of peritonitis which occur during young life:

1. Fetal Peritonitis and the Peritonitis of Infancy.
2. Appendicitis and Peritonitis.
3. Pneumococcic Peritonitis.
4. Gonococcic, Streptococcic, Influenzal, Migratory and Tuberculous.

FETAL PERITONITIS

Simpson, in 1838, was the first to report this condition. He enumerated 25 cases. Of all the known cases of this nature only one is reported to have survived. Most of these infants are still-born and the others die in a few days or weeks.

The peritonitis may be due to a prenatal infection which is transmitted by the blood-stream from an infected mother. These cases are relatively rare. There are also a few instances of fetal peritonitis,

syphilitic in origin, where spirochetes have been found in the ascitic fluid.

Finkelstein (Lehrbuch der Saugling's Krankheiten) states that there are a number of still-born children or those who die shortly after birth who show adhesions and band formations which indicate that an intra-uterine peritonitis had existed. Closer investigation shows that a certain proportion of these patients showed other evidence of congenital syphilis. Occasionally such intrauterine peritoneal inflammations may be due to the fact that the tuberculous infection in the mother has passed through the placenta and the possibility of a gonorrheal infection acting in a similar way has been suggested by Ballantyne. Fetal ascites is sometimes observed and may interfere with the birth of the child. This ascitic manifestation is not necessarily associated with fetal peritonitis. It may depend upon a gummatous infiltration of the liver, obstructing the portal vein and its branches, or upon malformations of the circulation. These children also frequently are still-born or die shortly after birth.

Ballantyne reports cases of plastic peritonitis in newly-born infants without effusion usually leading to peritoneal adhesions. Perhaps some of the intra-abdominal and pelvic malformations may be due to fetal peritonitis and adhesions. In such instances, however, it would be necessary to assume that the peritonitis occurred early in fetal life before the malformed organ is fully developed or during its development. Occasionally a chylous ascites is observed in early infancy. While many of the cases of fetal ascites are of obscure origin, nevertheless a certain proportion are undoubtedly due to fetal peritonitis. Possibly a more important factor in the causation of fetal peritonitis is malformation or developmental anomaly of the abdominal viscera. Meconium may enter the abdominal cavity through a perforation in Meckel's diverticulum. In any anomaly of the urinary bladder, where communication exists between the bladder and the uterus, the urine may seep through the uterus and tubes into the abdominal cavity and cause an aseptic peritonitis and adhesions of the viscera. Congenital malformation, or stricture or stenosis of the intestine, may lead to perforation and peritonitis. Volvulus may occur during intra-uterine life, though it is difficult to determine whether the obstruction resulting is the cause or the effect of peritonitis. Perforations of

the large intestine have been reported where no developmental anomaly has been present to account for the rupture of the bowel. It has been assumed that the majority of them occur during the act of birth. In these latter cases rupture usually occurs in the colon, the sigmoid flexure being the point of election, particularly if it happens to have a long mesentery.

Finkelstein believes that peritonitis during the first few days of life may result from ulcers of the stomach or duodenum. Such cases must, however, be extremely rare.

The diagnosis of fetal peritonitis is made under the greatest difficulty. The prognosis of the infected, as well as the perforated, types is most unfavorable. Those with the dry or plastic form of peritonitis frequently escape recognition until the results of adhesions produce definite symptoms.

ACUTE APPENDICITIS

Appendicitis in children, as in adults, is probably the most frequent cause of peritoneal inflammation. In the very earliest stages of appendicitis, the inflammation is confined to the mucosa, though even at this period pus cells tend to form foci of inflammation in the walls of the appendix. This may soon extend into the muscular coats. As the process progresses the infection extends from the appendix to the peritoneum. A localized peritonitis may occur with a small amount of serous effusion with fibrinous deposits or a purulent exudate. There is, very early, a tendency of the peritoneum to wall off the infective process in the form of plastic adhesions between the cecum, ileum, omentum and anterior parietes. The inflamed appendix may lie behind the cecum and produce a retrocecal abscess, or it may point upwards toward the kidney producing suppuration in that region. If the appendix becomes gangrenous and perforates, the intestinal contents may be poured into the walled off cavity or it may find its way into the general peritoneal cavity.

"There are three important points concerning the peculiarities of the child's appendix which materially influence the course and the progress of inflammation in this organ during childhood."**

1. The large amount of lymphoid tissue in the child's appendix is apt to result in a rapid spread of the infection and early involvement of a wide area.

2. The appendix wall is relatively thin and, therefore, the infection soon becomes peritoneal.

3. The omentum of the child is not completely developed, especially in the early months of life, and its protective influence in walling off is therefore less effective.

In fact the outstanding characteristic of an acute appendicitis in the child is that it is more likely to be a rapidly spreading and intensive infection than the corresponding disease in the adult.

Appendicitis may occur at any age. In a review of the literature which I made several years ago, I found 80 cases of appendicitis in children under 2 years of age, some of them occurring during the first weeks or months of life. It is true that the disease occurs most frequently after the 5th year, though no period of childhood is entirely free from the disease.

John Howland briefly summarized the characteristics in early life and considers that three factors combine to make the diagnosis difficult:

1. The disease usually runs a course different from that in adults. It is more insidious. There are fewer positive symptoms and a greater tendency to general septic peritonitis with little previous warning.

2. Acute digestive disturbance with fever is so frequent in infancy and may occur with such severe toxic symptoms that we are more inclined to think of alimentary intoxication than appendicitis.

3. With very young infants we must rely on objective symptoms, the subjective being unreliable, variable and misleading.

There can be no doubt that many cases of appendicitis in early infancy are overlooked and recognized only when general septic peritonitis has developed.

PNEUMOCOCCIC PERITONITIS

Pneumococcic peritonitis may be classed among the most fatal diseases of childhood. This condition occurs most frequently in female children. In a relatively small number the disease is due to a pneumococcus infection of the pleura or lungs or some pre-existing pneumococcic lesion. Otitis media may be a primary focus. Owing to the fact that the condition occurs most frequently in little girls it has been assumed that the invasion is through the genital tract reaching the peritoneal cavity by the way of the fallopian tube.

**Fraser—Surgery of Childhood, Vol. II (p. 825.)

Recently the opinion has become more or less general that pneumococcus peritonitis is due to a direct infection through the genital tract. The primary variety of the disease, or a pneumococcal septicemia is not accepted as a frequent etiologic factor. The largest number of cases occur during the winter and spring months and when pneumonia and acute respiratory infections are prevalent.

The disease presents itself in two distinct varieties.

1. A localized, circumscribed abscess.
2. Acute diffuse peritonitis.

Every case of diffuse peritonitis probably commences as a circumscribed process. As a matter of fact, we are convinced from the clinical reports and the necropsy findings that the lesion may either remain circumscribed, producing a local abscess, or become diffuse. In our patients and in those whom we have seen in the practice of other physicians, the circumscribed variety seems to be rare as compared with the diffuse.

With respect to the clinical course of the circumscribed cases, we learn from case reports that the onset occurs suddenly, perhaps during the night while the patient is asleep, or possibly in the daytime while at play. Pain usually is severe and localized, occurring more often on the right side than on the left. Very frequently it is felt over the entire abdomen. At times it is described as sticking and again as colicky. The pain of circumscribed peritonitis, which may either be intermittent or constant, is always present and constitutes a leading symptom. The suddenness of the onset and the severe pain are characteristic of pneumococcic peritonitis. Perhaps hours or days after the initial pain, vomiting begins. The vomited material consists at first of the gastric contents; later it contains biliary matter; eventually vomiting increases in frequency and severity, threatening to exhaust the little patient.

Diarrhea may make its appearance early, following upon an initial constipation, or it may even be entirely absent. The temperature may not reach a very high point, but, as a rule, it rises rapidly and resembles the high temperature which is noted in lobar pneumonia. Herpes labialis has been reported frequently. Chills have been noted occasionally and, in younger infants, convulsions are not a rare occurrence. Cerebral symptoms simulating meningitis may occur in this as well as in the diffuse form of peritonitis.

Regarding the course of the disease as a whole, it may be stated that, without any marked prodromata, the child falls ill with high fever, abdominal pain, vomiting, and sometimes diarrhea. The little patient looks badly; the pulse is rapid, and difficult to count. When examined early, the abdomen is usually not found to be distended; although it is not easily compressed, the muscular rigidity, so common a symptom in other intra-abdominal processes, is not present.

The further course of the disease is as follows: After several days of severe illness, a cessation of symptoms seems to occur similar to that which is observed during the course of appendicitis. Perhaps on the second or third day the patient becomes more quiet; pain decreases; the abdomen is less distended, possibly soft. This has been called the period of "deceptive calm," and it may be assumed that the disease process is continuing in some other organ. The localized collections of pus at this time tend to point outwardly, particularly in the region of the umbilicus. Frequently they may be palpated, giving the impression of tumorlike masses. The region is often tender to the touch.

The diffuse type of pneumococcic peritonitis is not uncommon. It tends to run a severe and in most instances, a rapidly fatal course. The disease commences acutely, associated with violent abdominal pain, high fever, severe diarrhea, and vomiting. Diarrhea is usually present, although constipation is recorded occasionally. The condition of the patient is at once serious. The cheeks and ears are red and then become cyanotic; the face and eyes are sunken, the nose pointed, and the alae nasi actively dilated; the lips dry and fissured, sometimes with exudate; the tongue is dry and heavily coated; the facial expression is anxious; respiration is superficial and frequent, sometimes irregular. The pulse is usually small, irregular, and at times so rapid that it cannot be counted. The temperature may reach 104° or 105° F., though, in some cases, it may fall below normal. As the disease progresses, the abdomen becomes more and more distended, tense and painful. There may be dullness in the flanks. In some cases, the abdomen is tense or meteoristic without actual muscular rigidity being present.

GONORRHEAL PERITONITIS

Gonorrheal peritonitis is seldom encountered in childhood. This is contrary

to what one would expect in view of the relatively large number of children suffering from gonorrheal vaginitis. Occasionally one observes a circumscribed gonorrheal, peritoneal infection similar to that which is found in adults. The gonorrheal infection may become diffuse in the abdomen cavity and give rise to high fever and peritoneal symptoms which may last for weeks. It is generally stated that in this form of peritoneal involvement the mortality is lower than in any other form of diffuse peritonitis occurring in childhood. Comby places the mortality at 20 per cent in children. General gonococcus septicemia may result from the peritoneal infection and is most frequently the cause of death.

Tuberculous peritonitis is the commonest inflammatory disease of the peritoneum in childhood. The acute forms of the disease presents itself in two varieties:

1. The diffuse or miliary type.
2. The localized type.

The miliary type is an acute infectious process of the peritoneum and is associated with a general miliary tuberculosis. The acute localized form has its seat of origin in the appendix and the ileo-cecal group of mesenteric glands. This condition is frequently mistaken for an acute appendicitis. From the regional focus the infection may reach the peritoneum by various routes. Even in childhood the Fallopian tube may become infected with tuberculosis and produce a localized form of tuberculous peritonitis. The chronic form of tuberculosis peritonitis presents itself as the ascitic, fibrinous (plastic) or caseous (ulcerous) form. It will not be necessary to enter into a detailed discussion of these varieties.

SEPTIC PERITONITIS

Under this heading may be grouped a variety of infections, the sepsis usually originating in various parts of the body and producing metastatic inflammation. The intestine itself may be the primary focus of infection. In alimentary infections micro-organisms may wander through the intestinal wall on account of its increased permeability due to local disease. This condition is spoken of as "Migratory" peritonitis. In rare instances septic thromboses of the mesenteric veins may occur leading to paralytic bowel and peritonitis. In former days septic peritonitis of the newborn was more frequent than it is now. Umbilical infection was only slightly less feared than maternal puerperal sepsis. Ulceration of the umbilicus, endarter-

itis and endophlebitis of the umbilical vessels, as well as peri-vascular inflammation were not infrequent causes of sepsis and peritonitis in the newly born. Septic peritonitis may occur during the course of an otitis with thrombo-phlebitis, acute tonsillitis, scarlet fever and influenza. I recently saw a child of two years of age who became ill with an otitis and who, during the course of several weeks, developed pneumonia and empyema, thrombo-phlebitis of the extremities, localized abscesses and a septic peritonitis with a great quantity of pus in the abdominal cavity, as well as adhesions and peritoneal inflammation.

DIFFERENTIAL DIAGNOSIS

A number of conditions may simulate peritonitis. Acute pyelitis may be ushered in with fever, vomiting, abdominal pain, localized or diffuse tenderness, and muscular rigidity. Little girls are more frequently affected than boys and the tenderness corresponds to the pelvis of the kidney. Pus is usually found in the urine though it may be intermittently absent and in the acute cases it may not appear for several days.

The onset of pneumonia and diaphragmatic pleurisy in children may be characterized by diffuse abdominal pain and tenderness with rigidity. A peritonitis may be suspected when in reality a pneumonia is in the process of development. Dyspnea, herpes labialis, a painstaking examination of the thoracic organs and an X-ray examination of the chest will, in nearly every case, enable us to differentiate a pneumonia from intra-abdominal disease.

Strangulated hernia, injuries to the testes or orchitis may at times simulate peritonitis.

An acute spondylitis such as occurs during the course of tuberculosis, or after typhoid fever may produce symptoms of peritoneal irritation.

Ileus, intussusception, volvulus, renal calculus, may occur and may present at times difficulties in diagnosis.

LABORATORY AIDS IN DIAGNOSIS

Several years ago Denzer proposed to obtain intra-abdominal fluid, for bacteriologic study, by abdominal puncture with a specially devised capillary tube. A trocar-cannula is inserted through the abdominal wall. The trocar is removed and the capillary tube inserted. The fluid thus obtained is studied and examined. In care-

ful hands the abdominal wall may be punctured with an aspirating needle or with a minute trocar such as is used in spinal puncture, for securing intra-abdominal fluid.

It is quite generally agreed that a considerable quantity of indican if found in the urine is fairly presumptive evidence of peritonitis, especially if other clinical signs are present.

In infectious peritonitis the leucocyte count is nearly always high, usually with an increase in the polymorphonuclear cells.

In 1920 Sambatti described a reaction in the urine based on the presence of what he called chromogenic substances which occur in cases of acute peritonitis. Many internists and surgeons have used this test

and while there still continues to be some difference of opinion as to its value most of them agree that it has its place in diagnosis and prognosis.

The technic of the test consists in taking 2-3 c.c. of concentrated nitric acid and adding urine to form a contact zone. Above the zone of contact, which is reddish brown, observed in any urine, a blue-grey color develops in case the reaction is positive. After standing the color diffuses throughout the urine and after several hours without shaking a ruby-red color can be extracted with chloroform. Deutsch and Graham repeated Sgambetti's experiment and did not believe the reaction was specific for peritonitis. They thought that the red obtained by the reaction is indigo-red. The diagnostic importance of the test is similar to that of indican.

EARLY DIAGNOSIS OF PREGNANCY

The diagnosis of uterine pregnancy is readily made after the first two months of gestation in the average case, and in experienced hands an almost positive diagnosis is often possible during the first eight weeks of pregnancy. It is often of importance to make an early diagnosis between normal pregnancy and various pathologic conditions, notably fibromyomas of the uterus, extra-uterine pregnancy, inflammatory tumors and ovarian cystoma. Marion Douglass, Cleveland, emphasizes a sign that can be recognized by the pelvic examination in a high percentage of cases in the first month of pregnancy. The sign is as follows: In the vast majority of cases within a week or ten days after the first missed period, a slight resilience or elasticity of part of the fundus may be felt on manual examination. The vaginal finger moves its way, step by step, advancing up the anterior uterine wall. By careful palpation through the bladder, the uppermost point of the cervix is felt, above which is the slight depression marking the site of the future lower uterine segment. This is the forerunner of Hegar's sign. The upper part of the uterus may feel hard, firm and "like a potato," but immediately below this on the front of the fundus uteri the rubbery elasticity may be made out extremely early. If the finger is pressed firmly into the uterine musculature at this point or just above, it may be felt by the examiner to be making an indentation or depres-

sion in the musculature beneath its palmar surface. If the finger is moved to the side and returned to the original point of pressure, the depression made by the finger may be felt clearly to persist in the uterine musculature. The impression is that of "pitting edema." Under ordinary circumstances this effect cannot be reproduced at all on normal nonpregnant uterine musculature. In observations made in approximately forty cases of early pregnancy, in which a diagnosis had not yet been made, the sign was elicited in 60 per cent of cases within three weeks after the first missed period and in many of these within the first week. Further observation of these forty cases proved pregnancy in more than 90 per cent of cases in which the sign was positive. The examination of the phenomenon of the changed consistency and the persistence of a compressed area in the uterine muscle is probably merely the heightened vascularity of the uterus and increased boggiess of its musculature. This sign has been extremely valuable in the diagnosis of uterine pregnancy in early cases in which "bellying" of the uterus is slight and before the globular shape and anteroposterior diameter increase have become demonstrable. Douglass feels fairly confident in saying that this is a reliable sign of early gravidity and that it frequently occurs when there are no other signs in the uterus which might make a diagnosis possible.—Journal A. M. A.

FINDS NEARLY ALL THE GLANDS PLAY PART IN REPRODUCTION

The endocrine glands of the body have almost all some part to play in the process of reproduction, it appears from studies made by Dr. Oscar Riddle of The Carnegie Institution and reported at the Portland meeting of the Society for the Study of Internal Secretions. They play their respective roles through the powerful hormones they secrete.

"It appears that nearly all of the internal secretions are intimately concerned in one or another special aspect of reproduction," stated Dr. Riddle. "The facts now known indicate that the

essential aspects of the mechanism of reproduction are not under the control of the nerves."

Dr. Riddle and his associates have been studying the relation between glands and reproduction in birds. They found certain seasonal changes in size and functional activity of some glands corresponded with the period of greatest activity in the reproductive organs. Dr. Riddle has concluded from his studies that true hormones are meant primarily to regulate the activities and co-ordinations which are part of certain essential rhythms of the body, among them the species-preserving rhythms of reproduction.—Science Service.

HEMORRHAGIC DISEASE OF THE NEWBORN*

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Hemorrhage in the newborn may be divided conveniently into three groups: First, one associated with trauma; second, one dependent upon infection; and third, that containing the so-called primary or idiopathic hemorrhage. The last condition, a relatively uncommon one, having as its cause a blood dyscrasia which is not completely understood, is dealt with in this paper.

Idiopathic hemorrhage disease occurs in the first week of life, usually appearing on the third or fourth day. Its characteristic feature is a spontaneous, persistent bleeding frequently from different parts of the body. This manifestation includes bleeding from the navel, melena, hematemesis, epistaxis, hemorrhagic areas in the skin, mucous membrane and subcutaneous tissue, and occult bleeding. There also may be evidence of intracranial bleeding. At necropsy hemorrhagic areas may be found in the mucous membrane of the gastrointestinal tract, in the pericardium, peritoneum and pleura, in the internal organs and in the cranial cavity. The disease runs a self-limiting course resulting in rapid recovery, in early death from exsanguination before the process becomes checked, or in death from derangement of the function of a vital center by bleeding into or around it. It may be mild or very severe, with a mortality, untreated, of 35 to 85 per cent. The incidence in all births is about one-half of one per cent. As reflected in the cellular elements of the blood, the disease gives the picture of a secondary anemia.

Although this malady is now thought of as a clinical entity, our knowledge of it is comparatively recent. Probably its first mention was by Mauriceau in 1682¹. In 1850 Henry I. Bowditch² of Boston, reported twelve cases of hemorrhage from the umbilicus with a description of signs and symptoms. Two years later, Francis Minot³ of the same city described the condition with an analysis of 46 cases, 84 per cent of which were fatal. He alluded to the description of a well marked case with a colored plate illustrating postmortem changes, in Cheyne's "Essays on the Diseases of Children," published in Edinburgh in 1801. He also referred to an account of the disease by Capuron in "Traite des maladies des enfants jus qu' a la puberte," published in Paris in 1820, and to two articles in the London Medical Gazette of 1849 and 1850. In Germany about the

middle of the century Weber⁴ observed a great delay in the coagulation of the blood. At this time the causes assigned included hereditary predisposition, the influence of sex, derangement of the function of the liver and an imperfect closure of the umbilical vessels. Treatment was affected by means of astringents, styptics and mechanical pressure. In 1891 Charles W. Townsend⁵ recorded a series of 32 cases, along with an accurate description of the disease, to which he gave the name by which it is now usually known, "Hemorrhagic disease of the newborn." He later reported a second series of 50 cases⁶ with a table giving the sources of the bleeding, which occurred most frequently in the gastro-intestinal tract, in the skin and from the navel. The incidence was 0.57 per cent and the distribution between the sexes about equal. He wrote, "When bleeding occurs in the newborn, it is apt to occur from various parts of the economy, the affection being general and not a local one." The condition was reviewed by Abt⁷ in 1903, who added a series of cases and listed ulcers of the stomach, constitutional states, head injuries, syphilis and infection, as supposed causes. He himself suggested an abnormal condition of the blood. German⁸ and French⁹ observers also focused attention on a blood abnormality when they noted prolonged coagulation periods.

The transfusion of a severe case of hemorrhagica neonatorum, in 1908, by Carrel who made an anastomosis between the right popliteal vein of the baby and the left radial artery of the father, marked an epoch making stride. The words of Lambert¹⁰ who reported it indicate the greatness of this achievement. "Enough blood was allowed to flow into the baby to change her skin from a pale transparent whiteness to a brilliant red color," "The child made an uninterrupted recovery," "The striking thing in the case is that the disease ceased suddenly and the child has been cured from the moment of the transfusion of blood." We can well imagine that

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to these men, as they watched, came that rare experience which it is the privilege of few to have, when nature yields up a secret and for a moment allows us to see beyond the curtain of the unknown. Subsequent to this other successful transfusions¹¹ were recorded. In 1910 Mosenthal¹² voiced the opinion then becoming current by reference to the abnormal clotting quality of the blood which was remedied by giving normal blood. Schwarz and Ottenberg¹³ laid emphasis on the uncontrollable character of the hemorrhage and the fact that the blood coagulated, if at all, very slowly. They concluded that impaired coagulation, due to a destruction of, or an interference with, the production of thrombokinase was the immediate cause. Horse serum, injected to control the bleeding, was thought to be of doubtful value. Welch¹⁴ was the first to use human blood serum subcutaneously, and in a series of nine cases, only one died. Schloss and Commiskey^{15, 16}, introduced the subcutaneous use of whole blood.

In seeking the etiology of this disease, it was natural, at a time when bacteriological studies were so successful in revealing the cause of many morbid conditions, that search should be made for a specific microorganism. Townsend adhered to an infective origin and Green and Swift¹⁷, in series of 51 cases, noted, in the winter months, a mild epidemic. Many investigations were made and various organisms were described as the etiological factor. Kilham and Mercelis¹⁸ found that great confusion existed concerning a specific microorganism and Schloss and Commiskey¹⁵, in a lengthy review of the subject, came to the conclusion that bacterial findings were usually incidental. It is, however, generally recognized that hemorrhage may occur in severe sepsis of the newborn and, indeed, in most infections they may contract. Also, writers are agreed that congenital syphilis is a cause. Green¹⁹ noted that patients with hemorrhagic disease often gave a history of parental syphilis or had evidence of the disease in themselves, and Hess²⁰ drew attention to cases of birth hemorrhage in syphilitic babies, attributing it to changes in utero brought about in the fetal vascular system by the syphilitic virus.

It is likely that instances of the above mentioned infections, as well as traumatic hemorrhage and that from local causes such as ulceration of the bowel, were included in reports of the earlier writers. But we have come to recognize that there is a type of spontaneous bleeding, with signs as

outlined at the beginning of this paper, and which appears to depend upon an abnormal condition of the blood itself.

There is normally in the first week of life a considerable destruction of blood elements. The red count may drop as much as 1,000,000 cells per cubic millimeter and the hemoglobin about 10 per cent. The leukocytes may also fall from 20,000 to 10,000 per c.m. The average coagulation time as determined by the method of Rodda²¹ is seven minutes, with a range of five to nine minutes. There is a tendency to prolongation over the second, third and fourth days with a maximum on the fifth day, and a return to the time obtained during the first 24 hours before the tenth day. The bleeding time by Duke's²² method shows the same general type of curve as the clotting time, an average of three and one-half minutes and a range of two to five minutes. The effect of gas anesthetics used during labor, as nitrous oxide and ethylene, on the bleeding and coagulation time has been studied by Sanford²³, who found that the former caused a prolongation of the average bleeding time at birth of one minute and of the coagulation time of two minutes, and the latter of two and three minutes respectively. Both corresponded to normal in nine days. Thus it would not seem that these anesthetics play a part in the causation of hemorrhagic disease. However, conditions may be present which appear to favor hemorrhage. The coagulation time may be prolonged to 20 or 30 minutes and yet there be no bleeding; but if with this, the bleeding time is even slightly increased, hemorrhage is almost certain to start. Again if the coagulation time is only slightly lengthened but the bleeding time at all prolonged, signs of hemorrhage may appear²⁴. In cases reported by McCollum²⁴ 85 per cent showed the bleeding time increased to about twice that of the clotting time, the former averaging 16 and the latter eight minutes, and in some cases the clotting and bleeding time were normal. It would appear that a complex of delayed coagulation time and prolonged bleeding time determines the onset of hemorrhage.

The mechanism of this process has been explained best by the work of Whipple²⁵. In a study of various hemorrhagic conditions, based on the Howell²⁶ theory of blood coagulation, he showed that they were wrapped up with the anti-thrombin prothrombin balance. In the hemorrhagic disease of newborn babies there is in most instances a relatively sudden disappearance

of prothrombin from the blood stream. According to the Howell theory, anti-thrombin holds pro-thrombin in balance and a relative increase of the former leads to bleeding. The therapeutic administration of serum or blood restores this balance, stimulates the formation of prothrombin and the bleeding stops. The malady would seem to be more of a blood abnormality than an affection of the vascular bed as one would not expect so rapid a change in the condition of the vessels.

Clinical experience and scientific investigation of this problem have placed modern treatment on a sound basis. It consists of transfusion, using about 15 c.c. of blood per kilogram of body weight or of the subcutaneous injection of 15 to 30 c.c. of whole blood repeated, if necessary, at four to six hourly intervals. As the former procedure is one requiring considerable surgical skill and is done with difficulty outside of a suitably equipped hospital, the latter has come into greater vogue, and in most cases is sufficient to control the hemorrhage. Treatment should not be deferred until coagulation and bleeding tests have been done, but should be preceded with at the first sign of bleeding. These tests enable one to accurately follow the course of the disease. If hemorrhage occurs within the cranial cavity lumbar or ventricular puncture may be required to reduce the increased intracranial pressure. In this connection it is well to bear in mind as Ehrenfest²⁷ has pointed out that a tentorial tear, otherwise unimportant, may give rise, if the patient happens at the same time to be suffering from hemorrhagic disease, to extensive bleeding. Reduction of this increased pressure should not be attempted, unless very urgent, until the injected blood has had time to increase the clotting power of the patient's blood. Otherwise fresh hemorrhage may result.

While it is not likely that the treatment of hemorrhagic disease will be changed by newer knowledge, prophylaxis will undoubtedly become important. What is at the basis of the blood changes is still a mystery. In an experimental study of the pathogenesis of hemorrhagic conditions in the newborn, Graham²⁸, in 1912, felt that a part was played by a number of toxic agents. While this may be so when applied to the larger field of hemorrhagic states which he considered, the clear cut features of the disease under discussion make it likely that a single cause, or set of causes, the same in each instance, is operative. Work recently done is inviting of

interest. Moore and Brodie²⁹ found that a lack of vitamin B in the diet of experimental rats resulted in hemorrhagic conditions in the young. They observed a child who suffered from a fatal hemorrhagic illness, whose mother during pregnancy happened to receive a diet containing practically no vitamin B. A necropsy showed extensive internal hemorrhage and in the microscopic examination of nerve tissue, changes similar to those of beri-beri were demonstrated. Sooy and Moise³⁰ used the quartz lamp in hemorrhagic conditions in the newborn with benefit. In Toronto, McCollum²⁴ noticed a seasonal incidence, an increase in the number of cases beginning about the first of October, reaching a maximum in January and falling rapidly about the first of April. This, he has linked with the variation in the ultra-violet light of the sun's rays, which in the latitude of Toronto follows a curve inverse to that of the incidence of cases observed, and has suggested a relationship between it and a lack of the anti-neuritic vitamin. In the case of Kugelmass and Tritsch³¹ bleeding was predicted from a study of the maternal blood and successful prophylaxis was instituted. A mother who had lost several children from this disease entered upon her fifth pregnancy. A deficiency of prothrombin was demonstrated in her blood and so remedied by high protein feeding that the newborn infant did not suffer as had the others.

That it is altogether a matter of such deficiencies is improbable as twins would surely be affected alike. Sanford²³ recorded a twin birth, without anesthesia, with a coagulation time in one baby of 13 minutes and a bleeding time of 10 minutes, and in the other of six and five minutes respectively. In a twin delivery by Rodda³² one child, with a coagulation time of 32 minutes, died as a result of intracranial hemorrhage, while the other with a coagulation period of 15 minutes, survived. A factor as yet unknown in the infants themselves would seem to play a part.

Our more recent knowledge of the underlying factors of hemorrhagic disease in the newborn is as yet inco-ordinated but is a matter of interesting conjecture. The solution of the problem may, in all probability, lie along the lines of the newer aspects of nutrition.

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EMOTIONAL UPS AND DOWNS CHARTED BY PHYSIOLOGIST

After studying the moods of twelve normal men every day for an entire year, Rex B. Hersey, psychologist at the University of Pennsylvania, has found that emotional states go in cycles. In a report of his investigations to the *Personnel Journal*, Mr. Hersey tells how, day after day, he watched the twelve working at their regular jobs and noted their cheerfulness, jesting, anger, or irritation. In the evening he spent much of the time with them in their homes or elsewhere. He evolved a method of grading their emotional states in twelve levels, ranging from the highest level which he called happiness or elation, down to the lowest level of worry.

Judging by the emotional charts of these normal men, each person has his own characteristic emotional curve. From feeling sad or gloomy or below par, his general emotional tone tends to rise. He reaches the top of his working form and is as happy or cheerful on the average as he is ever likely to be. Then his emotional tone sags, and his work is likely to sag, too, or at best he puts more effort into it.

The shortest time taken to complete one curve

of emotional ups and downs was three weeks. The longest was nine weeks. But each man followed his own characteristic curve over and over through the year and did not vary from it by more than a week. The degree of emotional heights and depths reached by each individual was characteristically different. Some ran a wide gamut of emotions. Others were much less variable.

The curves could not be satisfactorily accounted for by environmental happenings, climate changes, or any physiological changes that could be measured, the psychologist declared. It is possible that the emotional tone may be in some way involved with variations in the balance of power in the body between energy spending and energy building mechanisms.

Further investigations are now in progress to confirm the findings on these twelve men, Mr. Hersey stated. If the emotional cycles are proved to be a universal human trait, they may give a serious jolt to the present industrial tendency to expect a set amount of production from each worker at all times.—Science Service.

PLACING THE BLAME (Wayne County Medical Bulletin)

So long as the medical profession continue to be the dupes they have been in the past (by giving their services to free clinics) this type of abuse will continue. So long as the struggling young doctors will vie with each other for clinic appointments that they may treat gratis, patients they should be treating in their offices, for the privilege of seeing their names appear in small print on the back page of the hospitals' annual

report as voluntary flunkies, clinics will have plenty of funds to expend. When the time comes that they demand an equitable system of operation, there will be a profusion of old maids looking for occupations other than convincing thrifty persons that they are objects of charity, and until that time does come there can be no real conciliation between clinics and the medical profession.

THE PRESENT STATUS OF THE TREATMENT OF BRONCHIAL ASTHMA*

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One can readily appreciate that the treatment of a disease, the cause of which is unknown, must on the whole be unsatisfactory. On the other hand, during recent years, a great number of facts have been determined which, although they do not entirely explain the mechanism of asthma, give us a clue to successful treatment. It is well to bear in mind that attacks can be prevented when caused by known substances. But, since the primary cause for the inherited asthmatic physico-chemical unbalance is not at present understood, there cannot be a treatment which is a certain cure for all cases.

In treating asthma it is of paramount importance to be aware of the following facts:

1. A right diagnosis is essential. I have been called upon to attend patients with heart disease, foreign bodies in the lungs, thymus hyperplasia, etc., who by their wheezing and dyspnea resembled true allergic asthmatics so closely that they were misdiagnosed and treated as asthmatics.

2. It is known that spontaneous cures, sometimes of long duration, occur. The absence of certain substances in the air or in the patient's surroundings may account for this apparent cure and not the therapy used.

3. In certain cases the administration of a drug of any kind may tend to bring on the symptom-free interval of the disease. For instance, I have seen one patient who was relieved for years following administration of a drug which contained arsenic, another one after taking iron. Experience has shown that these drugs are without any value in other patients. The same holds true with operations, injections, climatic changes and accidents. I know of a patient who became freed from severe pollen asthma of long standing following a fall on his nose and a fracture of the nasal bones. One must be very critical in interpreting such results.

4. One should realize that in determining the cause or the causes, it is not only the patient's body that has to be examined; The dust of his home, the vegetation of his neighborhood, his food, his habits, his clothing and toilet articles should also be thoroughly scrutinized.

If one is able to determine the offensive articles, one can follow one of two procedures, (1) elimination of the causative

substance, (2) specific desensitization. If one does *not* find the cause, non-specific therapy should be instituted.

ELIMINATION OF SENSITIZING SUBSTANCE

In only a small percentage of our cases these articles are known. In refractory cases it is usually one of the unknown agents that causes the attacks. May I quote one of the most impressive facts in this regard which has lately been brought out by Figley? He found that 30 patients became asthmatic following inhalation of dust from a castor-oil bean mill which contaminated the air of certain suburban districts in the city of Toledo. A similar "epidemic" of asthma was detected by Frugoni in Italy caused by a parasite in grain, and by Van Leuven in Holland due to contamination of the air by the products of a fungus-like organism called *aspergillus*. Cushman has discovered that a certain dye used in a fur factory elicited asthma among some workmen. Recently, Bernton in Washington found that the mulberry tree was an effective cause, Balyeat in Oklahoma that English plantain produced asthma in a great many patients. Theoretically, therefore, the treatment which consists in removing causative agents from the patient's surroundings is never complete if one considers that there are thousands of agents in the air of which we have no knowledge. On the other hand, one must admit that the removal of chicken feathers, of orris root, rabbit hair, elimination of foods and so forth has relieved many patients of their suffering.

DESENSITISATION

Desensitisation consists in injecting small amounts of the sensitizing substance in increasing doses. At the present time its great domain is the pollen desensitisation for the hay fever asthma. If one does have failures with this method, it is due either to choosing the wrong pollen or group of pollens or not reaching a suf-

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ficiently high concentration of the extract when the hay fever season starts.

The other types of asthma in which desensitisation is most effective are bacterial and emanation types. Autogenous vaccine in increasing amounts should always be resorted to if there is reason to believe that the patient's allergy is elicited by bacteria and if the source cannot be removed otherwise. Tuberculin in increasing amounts should be used in tuberculous asthma. One of the most recent methods is desensitization with the patient's house dust. Very good results indeed have been obtained by this therapy.

Attempts have been made to use the same method in treating food asthmatics. Some have administered extracts of food to which the patient is sensitive by hypodermic, others have given small amounts of the sensitizing food in increasing doses by mouth. The results, however, are not as encouraging as vaccine and dust extract therapy. When the asthma attacks were produced by injections of therapeutic sera I believe desensitization with this serum should always be carried out.¹

In attempting to remove the specific cause for asthma, one frequently encounters the presence of focal infections. Indeed, the extraction of a carious tooth or the removal of tonsils or a sinus operation is occasionally a helpful therapeutic measure. But, warning should be given against routine nose and throat surgery. Sinusitis is very frequently more the result than the cause of asthma, on account of the chronic catarrhs present among allergics.² I have seen only one nasal pathology, the removal of which is nearly always accompanied by good results, namely polypi. Where there is a complete or nearly complete obstruction of the nasal passages, nasal operation is imperative.

There is no doubt that frequently diseases of internal glands bring on asthma and accordingly their correction may act favorably upon the course of asthma.

NON-SPECIFIC MEASURES

In view of the lack of a specific basic cause for allergic disease investigators assume that an individual with the inherited allergic constitution becomes asthmatic as the result of certain changes in his physico-chemical makeup. On the basis of this reasoning clinicians have resorted to non-specific measures as peptone, typhoid-vaccine, milk, or even injections of avirulent living bacilli which produce high tem-

perature. These measures, however, have failed to give uniform results.

There seems to be increasing evidence in literature that the use of acids aids in relieving asthmatic attacks. Beckman has recommended nitro-hydrochloric acid for asthma, Duke acetic acid, others have found the inhalation of carbon-dioxide a useful measure. Further research will enlighten us on the question of whether or not there is, as some investigators claim, a decreased hydrogenion content in the blood and an achlorhydria in the stomach during asthmatic attacks.

Refractory cases can often be successfully treated by X-rays applied in small doses over chest or spleen.³

The benefits occasionally obtained from the intravenous injections of calcium chloride and sodium iodide may possibly be due to modification of the ion concentration in the blood.

In theorizing on the value of all these unspecific measures some have attributed importance to the chemical state of the blood, others to the vago-sympathetic unbalance, others to the stimulation of organs such as the spleen, liver and the endocrines. However, none of these theories has been substantiated. The insulin for asthma is not yet discovered.

SYMPTOMATIC TREATMENT

In 1923, Storm Van Leuwen presented his first studies on the allergen free chambers, rooms which can be made particle-free by an elaborated purification process. Cohen of Cleveland utilized this idea of Van Leuwen by devising an apparatus by which the air of a room can be filtered and made completely free from pollens and other particles. Others have used masks for the same purpose. Undoubtedly a great deal of benefit has been derived from this measure but it is evident that only a limited number of cases, namely, the ones sensitive to particles suspended in the air, can be relieved by it.

The epinephrin-group deserves foremost mention among drugs. Ephedrine apparently has more disagreeable after-effects than epinephrin and its administration is by no means ideal especially if one considers its destructive influence on the aorta. Frequently both remedies lose their effect, if repeated too often. The atropin group including lobelia, belladonna, hyoscyamus is an adjuvant to the treatment, but is not as prompt nor as constant as epinephrin.

In summarizing, may I say that every-

thing depends on finding and eliminating the specific causative substance and where this is impossible on bringing about an alteration of the physio-chemical state of the organism by measures which are to be adapted to the need of each individual case.

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"THE UNRECOGNIZED OCCIPUT POSTERIOR POSITION"*

H. E. NORTHRUP, M. D.**

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In 5,368 consecutive cases of labor which I have been privileged to review, the posterior position of the occiput occurred but 352 times, a percentage of .065.

This very low rate of occurrence prompted the presentation of this much discussed subject. The percentages given for this position range from 11 to 70 percent. The exact frequency cannot be accurately determined, but it is by far the most common anomaly in obstetrics.

The foregoing percentages have been gathered from the works of Williams, Edgar, DeLee, Shears and Potter—all outstanding obstetricians. The series herein presented, with few exceptions, represents the work of the average general practitioner.

It is obvious that this condition is often carelessly or ignorantly overlooked. Not diagnosed.

The diagnosis of the occipito-posterior position ought to be made early which is not generally easy.

Few occipito-posterior relations occur on the left, but many on the right side. In all cases in which the foetal back is found upon the right side the probability of a right posterior position should be borne in mind. The posterior position on the right side is twice as common as the anterior position.

A slightly contracted pelvis is a contributing factor in this anomaly, especially in a primipara.

Much can be determined by external examination unless the patient is obese or has a rigid abdominal wall. The signs include asymmetry of the abdominal wall; sometimes a depression above the pelvic brim, anteriorly, opposite to the foetal back; presence of small irregular parts in the median line. Auscultation may sometimes be of aid for the heart sounds are usually heard toward the flank to which the back is directed.

When the head has reached the floor of the pelvis or is well down in the cavity, external examination gives less satisfactory results.

Vaginal examination reveals some of the

characteristics which make the diagnosis positive. The cervix is usually not taken up as the presenting part does not press firmly against the lower segment. The large soft anterior fontanelle is felt obliquely, i. e., in one or the other iliac fossa, usually the right, while the small fontanelle is posterior and difficult to reach; just opposite to what obtains in anterior positions. If there has been much delay the scalp tissue may be swollen and the sutures difficult or impossible of recognition. A positive diagnosis can be made by the introduction of the half hand into the cavity of the sacrum and palpation of the posterior ear. If the ear points posteriorly, so must the occiput, and if the ear points to the right or left, so must the occiput.

All cases of occipito-posterior position are prone to have insufficient and irregular labor pains; dilatation of the cervix is apt to be slow, and early rupture of the membranes is frequent.

In about 90 per cent of cases the occiput rotates to the front without difficulty or delay. When rotation occurs it is accomplished through an arc of 135 degrees, instead of the usual 45 degrees—three times the distance required in anterior positions. Since this may take hours of labor one should support the patient's powers with food, especially sugars and fluids, and with rest and sleep. Morphine and scopolamine, morphine and magnesium sulphate with or without oil ether instillation should be used generously. A patient in late pregnancy with a probable diagnosis of occipito-posterior should be instructed to lie mainly on the side to which the occiput points, but should change often. The knee-chest position is also advised or less uncomfortable.

* This paper was presented to the Section on Gynecology and Obstetrics at the Annual Meeting of the Michigan State Medical Society held in Detroit, Thursday, Sept. 27, 1928.

** Dr. H. E. Northrup graduated from Detroit College of Medicine in 1912. He limits his work to obstetrics and gynecology. For eight years he has been head of Obstetrics and Gynecology Department at Highland Park, General Hospital, Highland Park, Michigan.

able lateral prone with hips elevated. Something may be done by keeping the bladder and rectum empty. It is well to be prepared for surprises as occasionally the head flexes, the pains strengthen, and rotation of the occiput to the front takes place rapidly. If the patient merely changes her position in bed, or gets up to go to the toilet, this favorable mechanism may be started.

Beyond question it is better for the mother and safer for the baby to have anterior rotation of the occiput take place and the birth occur with the usual anterior mechanism.

If progress seems to be unsatisfactory, early vaginal examination is indicated. If the head is unengaged with the membranes intact and the large diameter of the head above the brim, external manipulation of the anterior and posterior shoulder may be attempted. If, however, the membranes have ruptured, the amniotic fluid has drained away and the cervix is not dilatable, it is advisable to introduce a hydrostatic bag to aid dilatation of the cervix and thus shorten labor.

In the second stage of labor one of a few safe practical courses is available. If mother and child are in good condition, if the head is descending, and especially if anterior rotation of the occiput has already begun, Hodge's maneuver, consisting of upward pressure on the synciput during pains, might be tried; rotation thus encouraged may be spontaneously completed.

If the head remains above the brim, the proper treatment is version.

Manual rotation of the head has many advocates. DeLee in a recent article graphically describes his method. He says, "One is often disappointed to find that after the head has been turned into an anterior sector of the pelvic circle, before the forceps can be applied, indeed often before one withdraws the hand, the occiput slips back into its former malposition." He practices and advocates grasping the occiput with a vulsellum forcep to fix it until the forceps is applied. An anaesthetic is required. The posterior position is likely to recur making version necessary in the end. Moreover, this high rotation is about as formidable an operation as is an easy version.

Williams says, "When the head is arrested at the superior strait in a posterior position, version should be resorted to as soon as one is convinced that spontaneous advance will not occur, provided, of course, that the operation is feasible and is not

contra-indicated by disproportion between the size of the head and the pelvis."

It is estimated that at least 5 per cent of all labors are persistent occipito-posterior. In the great majority of cases, however, the head has reached the cavity of the pelvis before progress is arrested. Version may still be practicable, and if so, is safer than an attempt to deliver with the old model forceps. If the head be in the mid-plane this procedure is so dangerous that it ought not to be advocated as a method of choice.

The remaining method of delivering is the extension and rotation of the head with forceps followed by extraction. The use of forceps is not a minor operation but a major operation of the first magnitude. This manoeuvre necessitates the application and re-application of forceps which are not always easily applied.

In the discussion of forceps in occipito-posterior positions this question arises, may the forceps be used as a rotator or is it to be simply a tractor? The dangers of using the forceps as a pure rotator, the Scanzoni and Tarnier methods are the vagina and bladder may be torn from their attachments to the fascia and the bony pelvis; the baby's head and neck may suffer damage.

Bill has improved on Tarnier's manoeuvre by first raising the head out of the pelvic floor and then sweeping the handles around to impart the movement of rotation to the head within the pelvis.

DeLee advocates a method which he has devised and calls the "key in lock." In substances it is a rotation of the head by degrees. The adjustment, re-adjustment, traction and rotation of the head not more than 5 degrees at a time until a favorable application is secured.

The Kielland forceps enthusiasts claim the following advantages:

1. Easy application in spite of position of the head, and direction of the sagittal sutures.
2. The position of the head is not altered by the application.
3. The possibility of infection is less because only two fingers are used instead of the whole hand.
4. The biparietal application does not permit the slipping of forceps.
5. Better rotation is obtained because the forceps can be applied in one position.
6. The application aids the normal mechanism in terminating labor.
7. Less force is required.

The technic of the Kielland forceps de-

mands an exact diagnosis and considerable obstetric knowledge and experience.

However, enthusiastic we become we must not forget that the Kielland forceps have their limitations as in the contracted pelvis with rigid soft parts in old primipara.

In some cases it is impossible to turn the occiput to the front either by manual effort or by the forceps. If the occipitosacral mechanism is inevitable, it is best to deliver the head in extreme flexion with resulting perineal laceration.

In certain anomalies, such as undue disproportion (a markedly contracted pelvis, or an oversized child), or a tumor or other conditions obstructing the birth canal, an elective Caesarean section should have anticipated labor. Or if placenta praevia be present, perhaps an etiologic factor, the treatment of the latter encompasses the former.

SUMMARY

This anomaly occurs very frequently. We are prone to pass a condition that so often results disastrously with the remark that "about 90 per cent rotate anteriorly anyway."

A tentative diagnosis may generally be made late in pregnancy or early in labor. A positive diagnosis should be made by the end of the first stage by palpating the fontanelles and particularly an ear.

The first stage should be so managed as to minimize the suffering and prevent the development of maternal exhaustion with an accurate knowledge of condition of the foetus.

The second stage may often with great advantage to both mother and child be shortened. Unless spontaneous progress is evident active intervention should be participated. This may be accomplished either with podalic version and extraction, bimanual rotation and forceps extraction, or forceps rotation and extraction. The method of procedure should be the one best adapted to the condition or to the operator's skill. One may do versions, in most cases another can most frequently succeed best with forceps rotation.

Because of a large mortality of infants and great maternal morbidity due to this common anomaly, I especially make a plea for early diagnosis of the posterior position of the occiput.

DISCUSSION

Dr. Harry Pearse (Detroit): There are two or three points in diagnosis that might be mentioned that will help you. One of them is this: I have observed that the occiput posterior position often

goes overtime. If you have a patient, especially a primipara, and she goes two or three weeks beyond her expected date, she is a suspicious case for a posterior position. Another point in diagnosis regarding the fetal heart. It has been stated that the fetal heart is usually heard in the flank or near Poupart's ligament. Very often in the posterior the patient is seen after she has been in labor some time and there is a certain amount of deflection of the head which throws the baby's chest against the opposite side of the abdomen and the fetal heart—if you will listen at the abdomen—will be heard, very faintly, all over the lower abdomen. That makes me suspicious that that patient has a posterior position.

In doing a rectal examination in an anterior position the cervix is usually found far posterior. In a posterior position I find that on the patient's being admitted to the hospital her dilatation is very often missed. The interne calls up and says the patient is completely dilated. When you arrive at the hospital you find she has no dilatation. The interne has missed the cervix because it is anterior. The cervix in this position will be so far anterior that it is practically under the symphysis. I have made it a policy if the interne tells me that, and I see she isn't, to feel anteriorly on the cervix because it is usually in the posterior position.

One point in treatment. Manual rotation, I believe, in general practice will be the better procedure on account of the fact that the following forceps delivery is going to be much easier. It is much easier to do a manual rotation and then a forceps delivery than to deliver by the other complicated forceps operations.

Very often the failure in manual rotation results because the obstetrician hasn't rotated the shoulders. If you rotate a head to an anterior position and you find, in applying the forceps, that the head is rotated to its former position it is usually because you haven't rotated the shoulders. If you will re-introduce your hand at that occasion, reach far enough up to rotate the shoulder, you will usually be rewarded by the head staying in its anterior position.

Dr. Reuben Peterson (Ann Arbor): Occiput posterior positions are the bane of obstetrics, that is to say the usual run of obstetrics. It is not always easy to diagnose this condition, especially in a primipara with rigid walls. One may think that he has a right-sided position, and probably a posterior position, but to be certain about it is not always easy.

We do not make vaginal examinations unless we are obliged to. Consequently we are very apt to wait to see what is going to develop. Of course, there is no reason why vaginal examinations should not be made, as I believe they can be made safely, but in our teaching clinic we believe it safer to depend upon rectal examinations.

Oftentimes, as I say, it is very difficult to be certain about the exact position of the presenting part. If one finds the greatest intensity of the fetal heartbeat on the right, if there is delay in labor or in the dilatation of the cervix, that is, delay in the first stage, we are pretty certain that we have an occipitoposterior. Especially is this true if we have an early rupture of the membranes. But even then we do not interfere in the large majority of cases.

We have tried all of the methods that the essayist has brought out and we are very apt to

wait and see what the woman can do, that is, give her the test of labor.

In the large majority of cases the woman is able, whether she be a primipara or a multipara, to take care of this anomaly. Of course, arrested head will occur in a certain proportion of cases and then I think it should be taken care of according to the particular case. It is surprising what a woman will be able to do by letting her alone to see if she cannot change the position.

There are times when I am called up at night by my assistants in the maternity ward. They say that the woman has been in labor so many hours. They think we ought to interfere. I inquire about the condition of the woman and about the condition of the child. If they are favorable I tell them to wait and I will be over at the clinic in the morning. Then if things are not better at the time we will see what can be done. I should say that in fully 90 per cent of these cases the child is born when I reach the clinic in the morning. The tendency of the younger man is to interfere too early. He perhaps isn't as hard-hearted as the older obstetrician. If the woman complains he wants to interfere and help her out of her misery.

I think a great deal can be done by intelligent waiting. I do not mean waiting without knowing the condition present. I mean waiting if the condition of the mother and child are all right. When it comes to interfering because of the nature of our treatment you can see that version is very seldom done. We have waited until the head is in the pelvis and version is not the operation of choice.

We apply the forceps. We have tried the Kielland forceps and like them fairly well. If there is a tendency for the head to be born with the occiput posterior we always allow that to take

place, helping with the forceps always doing an episiotomy. It is surprising, even with the unfavorable condition, how little damage there will be to the perineum.

REPLY TO DISCUSSION

Dr. H. E. Northrup (Highland Park): I wish to thank Dr. Peterson and Dr. Pearce for the remarks they have made. In the beginning of my paper I apologized for bringing up the subject. I wish to call particular attention to the percentage that I was able to gather from the series of cases I presented. I believe it is generally conceded that at least 25 or 30 per cent of occiput-posterior cases occur on the right side. These cases that I presented, or referred to were gleaned from our obstetrical service, which is not composed wholly of obstetrical specialists, or those that are doing that work alone. Frequently the cases are sent in late and the diagnosis, of course, is not made.

I wish to repeat the plea for an early diagnosis to better handle the complications that arise in the second stage.

Shears says that a posterior that is persistent posterior can be delivered in the posterior position with far less damage to the perineum than was formerly thought. I feel if we recognize the case early enough that we can prevent the severe third degree lacerations that we formerly had.

The version referred to is only indicated after the patient had had long test labor and the head still remains above the brim.

I thank Dr. Pearce again for the other points he brought out in diagnosis, particularly the point of the cervix being anterior in the posterior position. (Applause).

UNDERTAKERS AND POSTMORTEMS

The Chicago Undertakers' Association, which is the leading organization of morticians in Chicago, has just begun the circulation of a questionnaire among the families of persons who have availed themselves of the services of members of the undertakers' association. Among other interrogations, the questionnaire asks whether or not the deceased was attended by a physician, whether or not an autopsy was performed on the body and by whom, whether or not consent was obtained for the autopsy, the nature of the autopsy, and the condition of the body thereafter. The questionnaire concludes with the following significant question: "Will the nearest relative and next of kin consent to bring suit against those participating in and responsible for said unwarranted and illegal autopsy?" Here is clearly an attempt to incite prejudice and malice against postmortem examinations. Apparently also the undertakers' association would urge families to bring legal action against any one participating in and responsible for an autopsy. The campaign

for recognition of the scientific value of post-mortem examinations has been a difficult one, a constant battle against prejudice, ignorance and superstition. The profession of undertaking has been attempting in recent years to raise itself from the position of a pitiable trade to that of a recognized profession. In this campaign it has even attempted the adoption of a completely new terminology through which undertakers have become morticians, undertaking parlors have become chapels or mortuaries, hearses have become limousine funeral cars or casket coaches, the remains or the corpse has become the body or the patient, and even the coffin has become a casket. It will require, however, something more than a change in nomenclature to develop for this group a scientific type of mind. Until the morticians learn to appreciate the significance to the living of proper scientific study of the dead, they will continue to be simply undertakers regardless of what they may call themselves.—Journal, A.M.A.

VARICOSE VEINS AND THEIR SEQUELAE

One hundred and sixty cases of varicose veins and their sequelae were studied by Geza de Takats, Chicago, as to age and sex incidence. More than 1,000 injections with 50 per cent dextrose were made. An individualizing management, consisting of supportive, injection and surgical treatment or their combination is described. The histological reaction of the vein following injection has been studied. Immediate results

of the various forms of treatment are tabulated. The possibility of pulmonary embolism following injection treatment and surgical treatment is discussed. The end-results of the surgical and injection treatment can be estimated only after five years. Recurrences are well known to occur after radical excision and may be expected following the injection treatment.—Journal A.M.A.

CERTAIN DIFFICULTIES AND EMERGENCIES OF OBSTETRIC PRACTICE*

W. P. TEW, M. B., F. R. C. S. (Edin.)

LONDON, CANADA

With the time at my disposal for this paper, I propose to deal with those difficulties and emergencies which seem to occur most commonly. I feel quite certain that I will not be able to do justice to any one individual subject here mentioned; since each of these is often of sufficient interest to form the topic of discussion for one or more meetings.

One may say that the Difficulties and Emergencies of Obstetric Practice begin some time previous to the occurrence of pregnancy and do not end for at least two months or more post-partum. Following this two months post-partum period we will classify the patient as gynecological. It seems convenient therefore to consider the difficulties and emergencies of obstetric practice in four groups—namely—the anti-pregnancy period, the anti-natal period, the labour period and the post-partum period.

It is very gratifying for those of us who are particularly interested in preventive medicine, and I trust this means each and every one of us, to note how much more frequently patients are consulting us before pregnancy ensues with reference to their physical or mental ability to undertake pregnancy. Such of my patients so far have usually had some rather definite reason for asking advice, yet it is pleasing to see that the general public are more and more realizing the actual value of prevention. In obstetrics we have one of the most fruitful fields of medicine for exhibiting the merits of prevention; and not least among these is the period before pregnancy is undertaken. These patients usually come to us asking if they are physically strong enough, because they either have or believe they have some physical disability, such as a valvular heart lesion or some form of kidney disease. If the patient is found to be perfectly physically fit, the consultation and examination was certainly well worth the time and money expended. The patient's mind is relieved, often very considerably. If a physical defect is found she is advised accordingly. The patient with valvular heart disease is advised to proceed with pregnancy providing that the heart muscle has compensated well and is not giving signs or symptoms of failure under the average stress and strain of the daily routine of the patient's life. If the heart muscle is not compensating well under those circumstances and does not do so with a regulated

daily life, this patient should be advised against pregnancy. The patient with chronic kidney disease, generally speaking is advised against pregnancy. However if the kidney function is good with the average daily diet and work we might have to qualify such a statement. This would depend chiefly upon certain factors namely—Is the kidney function normal, and is there any kidney degeneration? Osler's dictum here is an average safe one—"A patient with chronic Bright's disease should not marry." A patient with active pulmonary tuberculosis should be advised not to become pregnant. In the clinically cured cases, I think the patient's ultimate prognosis is much better if she does not become pregnant. For the patient with a definitely small pelvis, one has this wonderful opportunity of telling her long before hand the only possible means of delivering her and getting her a living child, i. e. caesarean section. The border line cases, with a slightly contracted pelvis may be told of some of the possibilities at or near term, but as these cases can seldom be well judged until the relationship of the child's head and the pelvic brim is made out, and may leave these until that time comes.

Definite foci of infection should be cleared up as much as possible. The questionable teeth should be X-rayed and dealt with accordingly. Infected tonsils, I think are better removed during this period than left. A troublesome appendix is also better removed.

The difficulties presenting during the anti-natal period may be considered in two classes: (a) Those due to the pregnancy. (b) Those not due to pregnancy—These two groups will be conveniently discussed as they occur during the first, second or last third of pregnancy.

First Third of Preg.	Second Third	Final Third
1. Diff. of Diagnosis	1. Diff. in Diagnosis	1. Diff. in Diagnosis
2. Toxic Manifestations	2. Toxic Manifestations	2. Toxic Manifestations
3. Uterus Displacements	3. Uterine Displacements	3. Uterine Displacements
4. Hemorrhage	4. Hemorrhage	4. Hemorrhage
	5. Pyelitis	

* This paper was presented to the Section on Gynecology and Obstetrics at the Annual Meeting of the Michigan State Medical Society, held in Detroit, Thursday, Sept. 27, 1928. This paper also appeared in the Canadian Medical Journal.

B

1. Acute Infections
2. Circulating Disease
3. Renal Disease
4. Pulmonary Disease
5. Surgical Emergencies

It is almost clinically impossible to make a definite diagnosis of uterine pregnancy before the end of the first six weeks. Following this period one may have to diagnose between pregnancy and a fibrosis uteri or several small fibroids which cause uterine enlargement. In such cases of doubt one is always justified in waiting and at regular intervals noting the changes in the uterus. If these changes correspond with those of normal pregnancy, one is usually justified in considering the patient pregnant. A pedunculated fibroid or an ovarian cyst may be separated from the body of the uterus and seldom causes much difficulty in making a differential diagnosis.

The toxic conditions which commonly occur during the first third of pregnancy are namely: Vomiting of pregnancy, ptyalism, hemorrhage—from placental site, neuritis, neuralgia, fibrositis and myositis, pruritis, certain skin eruptions.

It is a well established fact now that diet plays a most important part as a cause of many of the so-called toxic disturbances which occur during pregnancy. One of the best examples being the vomiting of pregnancy. In a case of vomiting we first make sure that the vomiting is due to the pregnancy. If so, make sure that a retroverted or retroflexed uterus is not aggravating the condition. Having done this we now get quite pleasing results with carbohydrate feeding. This may have to be carried out either intravenously, interstitially, per bowel or by mouth or by some combination of these, depending upon the severity of the vomiting. It seems that prophylaxis is again our most logical course here, and this is best done by overbalancing the diet of each patient from the onset of pregnancy with carbohydrates, along with plenty fluids.—(The other toxamias).

It seems good practice to do at least one vaginal examination during this period and if the pregnant uterus is retroverted or retroflexed, which is by far the most common displacement, it should be put in place and a pessary inserted. A retroverted or retroflexed uterus during this period is a common cause of abortion. If the uterus cannot be replaced with the first attempt—the patient may be allowed home for 24 hours with instructions to carry out certain simple exercises e.g. taking the

knee-chest positions q. 2 h. for 10 minutes. Often on the second attempt the uterus is either forced up in place or is easily replaced. If this attempt fails the patient is anaesthetized and a further endeavour is made. If the uterus is impacted firmly and cannot be replaced per vaginam it is well to have the patient's abdomen previously prepared for operation. A laparotomy is done and with assistance per vaginam the uterus is brought up into proper position.

Hemorrhage occurring during the first third of pregnancy may mean a threatened or inevitable abortion, extra uterine pregnancy or uterine growths, benign or malignant complicating the pregnancy. The threatened or inevitable abortions rarely give rise to any particular difficulty or emergency. The uterine pregnancy often forms a real emergency. It is best treated by operation when first diagnosed. In extreme cases a blood transfusion just previous to, or at time of operation will often be the means of saving the life.

Coming now to the middle third of pregnancy, we will first deal with the difficulty of diagnosis. It is during the fourth month that any real doubt is found; that is before the patient is feeling life. A differentiation may have to be made between a fibroid and pregnancy or both, and on the other hand an ovarian cyst. The cyst is more readily differentiated as it is usually possible to separate the ovarian cyst from the body of the uterus. If the fibroid is localized or circumscribed the difficulty is not so great, if a generalized fibrotic condition the difficulty in diagnosis is formidable and often time alone will aid in making the diagnosis a definite one.

The toxic manifestations occurring during this second third of pregnancy are usually not as marked as those occurring during either the first or last third of pregnancy. The nausea and vomiting have usually subsided. Those most frequently complained of now are the cases neuralgia, myositis, or fibrositis. If no other definite cause can be found I think one is justified in deeming them due to a pregnancy toxemia. The treatment is one of diet for the most part.

Hemorrhage during the middle third of pregnancy usually means a threatened or inevitable abortion; cervical polypus, placenta previa or new growth.

Pyelitis is a fairly common complication of pregnancy. Fortunately most of these cases respond quite readily to medicinal

treatment, e.g. when the urine is acid we use potassium citrate in 20 gr. doses g. 4 h. until the urine is made alkaline: The offending organism is usually the bacillus coli. In obstinate cases one may have to instil argyrol into the pelvis of the kidney or even drain. Occasionally one is obliged to do a therapeutic abortion for the patient whose condition tends to grow worse irrespective of all other forms of treatment.

The toxic manifestations which occur during the latter third of pregnancy are mainly pre-eclamptic toxemia, eclampsia and one may include accidental hemorrhage. It seems that if a patient is regularly seen by her physician throughout pregnancy, it is rarely that she will develop eclampsia. The routine management of pre-eclamptic toxæmia is one chiefly of diet and rest. The patient can be carried along with such treatment until the baby is viable, one may then do induction in all cases in which it would be unwise to carry her to term.

The treatment of the eclamptic patient at a near term with the baby living requires careful consideration. Generally speaking I think it wise treatment to use a modified Stroganoff method. The aim being (a) To eliminate toxins as rapidly as possible through all available channels. (b) To assist in delivery if necessary when the cervix fully or nearly fully dilated. (c) To get the patient into labour as reasonably soon as you can if she fails to go into labour herself, and then to assist in delivery when the cervix is sufficiently dilated.

Caesarean section is to be considered for the eclamptic patient even with the normal pelvis—in the case of a patient full term or nearly so, pt. possibly well over 30 with a long, rather firm cervix.

Vaginal bleeding occurring during the last third of pregnancy may mean an impending miscarriage or premature labour: placenta previa; accidental hemorrhage, or new growth. Having diagnosed the case as one of placenta previa, one first explains the condition to the patient and certainly the importance of the patient's keeping in intimate touch with her physician. If satisfied that it is a case of central placenta previa—one asks patient to go to hospital until she is delivered. Then the patient is kept under close observation until at term or as near to it as one can safely get her when she is delivered by means of caesarean section without further vaginal examination. If the case is quite definitely the marginal type of placenta previa,

again I think caesarean is the method of treatment. Cases of less marked marginal type particularly multiparous patients may be managed by means of version. In all cases of placenta previa it is good prophylaxis to have the patient's blood grouped and a suitable donor standing by in case one wishes to transfuse the patient with whole blood just before, during or following delivery.

The management of revealed accidental hemorrhage consists mainly in tightly packing the vagina with gauze until the cervix is sufficiently dilated for delivery; and to assist in the delivery by the quickest and safest method, usually the application of forceps. The management of the rather rare condition of concealed accidental hemorrhage usually calls for a caesarean section with or without hysterectomy as one finds necessary. Again it is wise prophylaxis to have the patient's blood grouped and to have a suitable donor standing by for use either during or just following delivery.

The new growth which is occasionally met with is carcinoma of the cervix. If the patient is near term, the treatment would consist of a caesarean section with a total hysterectomy or a Wertheim if the patient's condition would admit of such.

To save time we will leave the acute infections and deal briefly with the others of this group. Heart disease, either valvular or myocardial or both, is treated primarily for the heart disease irrespective of the pregnancy. If the patient's condition continues to improve with such management the pregnancy is allowed to continue to, at or near term when in many more serious cases a caesarean section under gas oxygen anaesthesia is the safest method of delivery. If the patient's condition grows worse under good cardiac management one terminates the pregnancy. The complication of pulmonary phthisis in the pregnant patient is carried out along similar lines as cardiac cases—namely if the condition improves definitely under good management she is allowed to continue, if not, the pregnancy is interrupted.

A patient with chronic nephritis is well advised not to marry, and if she marries she is better not to undertake pregnancy. If the chronic nephritis patient became pregnant one treats the chronic nephritis and if there is no improvement, or particularly if she gets worse, therapeutic abortion should be done. It is not very unwise treatment to do a therapeutic abortion

early for each case with a chronic nephritis.

Among the surgical emergencies, acute appendicitis is fairly common. The treatment being appendectomy, if a definite diagnosis is made during the first forty-eight hours of the onset. The cases diagnosed later may at times be more safely treated expectantly, providing rupture has not already occurred when, of course, drainage must be established and this may be done either in the abdominal wall or by means of a posterior colpotomy. Acute cholecystitis is best treated conservatively, unless there are definite signs of obstruction, when operation for removal of the obstruction and drainage of the gall bladder established. Salpingitis complicating pregnancy is treated conservatively unless there are definite signs of a spreading peritonitis, when drainage is established, preferably by means of a posterior colpotomy.

The difficulties after labour begins, will now be considered. These are rather varied and numerous but I propose to deal only with the more common difficulties such as prolonged second stage occipito posterior cases, breech, trans and oblique presentations, vaginal hemorrhage. The most common cause of a prolonged second stage of labour in cases where the mother's pelvis is normal, and the baby is normal, is insufficient flexion. This flexion of the baby's head may be increased by properly directed pressure per vaginam. This must of course be carried out before the head becomes too solidly wedged into the true pelvis. In other cases the most common cause is possibly some disproportion between the mother's pelvis and the presenting part of the baby. The proper management of the small pelvis cases is naturally an anti-natal problem. Generally speaking the final determining factor is the relationship of the baby's head to the pelvic brim. The decidedly contracted cases are dealt with by means of caesarean section at time of election. The border line cases may escape caesarean section or a traumatic labor by a premature induction of labour.

A safe management of the occipito posterior cases may be summed up as follows: (1) One may leave the case alone providing labour is progressing in a satisfactory manner and the condition of the mother and baby is satisfactory. (2) If interference is required, one may manually rotate and leave to nature or rotate and apply axis traction forceps. (3) Apply Kielland

forceps, rotate and extract. (4) Extraction without rotation. (5) Craniotomy rotate if child is dead. The three most common difficulties in breech presentations are: (a) Impacted breech. The management of the extended arms should be prophylactic, preventing extension. If it does occur—one must pass the hand up and deliver, preferably the posterior arm first then the anterior. In difficult after-coming head cases—one should be ready to apply forceps before making too many attempts with other methods. Personally I am using this method more frequently than the usual text book seems to advise. The impacted breech is dealt with in one of these ways: (a) Hooking a finger around the groin and bringing down one leg. (b) Bringing down a leg with the breech hook. (c) Disengage the impacted breech and by pushing it upwards into the uterus, then bring down the anterior leg, and complete the delivery as usual.

The management of the transverse or oblique presentation during labour is simple in the early cases or it may be most difficult in cases diagnosed later in labour. In the early cases one may convert it fairly simply into either a breech or a vertex presentation. In the cases which are diagnosed later in labour the problem is different and may become one of the most formidable in obstetrics. The points which one must endeavour to make quite certain of are: (a) Is the uterus tonically contracted. (b) General condition of the mother—temperature, pulse, etc. (c) Is the baby living and in seemingly reasonable condition. If the condition of the uterus is good and the patient's general condition reasonably good, with fairly normal foetal heart sounds, one may be justified then to do an internal podalic version with the patient quite deeply anaesthetized. If the conditions of the patient and the uterus are not good, one should not attempt the internal podalic version, but resort to decapitation or evisceration and extraction. The operations under these circumstances must be carried out with extreme care and as aseptically as possible.

The management of prolapsed cord is not always simple. I will deal here only with the type of prolapsed cord after rupture of the membranes. It usually accompanies such conditions as mal-presentations, contracted or deformed pelvis and polyhydramnios.

In vertex first cases one may attempt replacing the cord and getting the head

down in front of the cord, the head is maintained there manually in a flexed position until it is fixed by the uterine contraction; or forceps may be applied. If this fails one may do an internal podalic version if circumstances permit. In breech presentations the risks to the baby are less and usually with care the baby is born alive.

There are certain systemic diseases which may seriously complicate labour, e.g. cardiac disease, pulmonary tuberculosis and nephritis.

The cardiac case is fundamentally a question of heart muscle. At the one should look upon the case as a cardiac problem irrespective of the pregnancy, and treat it as such. So long as the case is satisfactorily compensating under proper cardiac management, one has little cause

to worry. When, however, compensation is failing under proper cardiac management the patient becomes a candidate for a therapeutic abortion.

Pulmonary tuberculosis makes a serious complication for pregnancy. Generally speaking it seems that if the case is active even with proper rest management, and is diagnosed during the first ten weeks, the proper procedure is a therapeutic abortion. The risk of the therapeutic abortion increases as the pregnancy advances. On the other hand if the case is not very active, or can be kept under control with proper management, and the patient is particularly anxious for a baby—one may allow the pregnancy to proceed providing the situation is explained and the patient is kept under proper supervision throughout her pregnancy and labour.

NEW FOOD HABITS BRING TARIFF CHANGES

New food habits have been developed by the people of the United States in recent years as a result of educational campaigns by nutrition research workers and dietitians and promotion campaigns by food manufacturers.

The tariff bill now before Congress, the first one to be written since 1922, will, when passed, contain many changes reflecting the increasing attention now paid to "eating-for-health" campaigns.

Tomatoes, for example, will probably have their tariff raised from one-half cent per pound to three cents per pound, and tomatoes "prepared or preserved in any manner" will carry a duty which formerly was applied only to tomato-paste. This is to take care of all canned tomatoes and tomato juice, now widely used for dinner cocktails and for a breakfast drink.

Briefs of the tomato producers presented to the House and Senate committees stressed the fact that tomatoes, either fresh or canned, have been found to contain a vitamin which would prevent certain types of malnutrition, but pointed out that while the acreage in the United States has shown

a tendency to decline in recent years, it was believed that a sufficient tariff would stimulate production. Tomatoes can be grown successfully in all parts of the United States, it was pointed out.

Sauer-kraut, another "health food," has come in for considerable discussion, and may have its tariff raised before the measure is finally passed.

Almost all vegetables in their natural state will receive tariff boosts, designed to stimulate home production.

Importers and exporters of limes asked to have the tariff reduced since these were largely used for medicinal purposes, but it seems probable that the duty will be increased rather than decreased.

The canned grapefruit industry has asked for special protection, but is likely to receive the same as that provided for all canned and preserved fruits.

Growers of avacadoes, mangoes and papayas have asked for special protection, and declared that it would be a splendid thing for the country if more papayas were grown, inasmuch as this fruit "contains papain, or vegetable pepsin, used as the basis of all digestive remedies in common use."—Science Service.

CANCER GROWTH CHECKED BY IRON AND GLAND EXTRACT

A new clue to the long-sought cure for cancer was presented to the Thirteenth International Physiological Congress at its recent session in Boston, by Dr. Boris Sokoloff, of Prague. A compound containing iron and extract of suprarenal gland has arrested the progress of malignant growths in about 10 per cent of all attempts on over a thousand experimental animals, he reported.

When the compound is injected into an animal afflicted with a cancerous growth it causes the malignant cells to liquefy, but has no effect on the healthy body cells. In his experiments the results were obtained very rapidly; in small tumors palpable effects were discernable in from three to five days, while in larger growths the process was a little more slow, requiring about 15 days.

An overdose of the treatment carries its own danger, the Prague physiologist stated. Some of his rats got too much, their tumors liquefied too

rapidly, and they died. By decreasing the size of the dose and giving repeated injections this unfavorable action was avoided.

The action of the remedy seems to be permanent. Out of 200 rats cured of cancerous tumors over two months ago, only five have suffered a relapse.

The first hints of the possibility of the new treatment were obtained, curiously enough, on organisms at the very bottom of the evolutionary scale. It was found that an iron-suprarenal compound regulated the mutual proportions of the parts of the unicellular animal *Amoeba*, and that an increase in the concentration caused the outer protoplasm to liquefy, killing the organism. The possibility of applying the same treatment to cancer cells, which are essentially normal cells gone crazy about increasing and multiplying, suggested itself to Dr. Sokoloff, resulting in the researches as reported.—Science Service.

DIFFICULTIES IN THE X-RAY EXAMINATION OF PULMONARY TUBERCULOSIS IN CHILDREN*

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DETROIT, MICHIGAN

There has been so much confusion in the minds of the average physician in regards to the definite diagnosis of "Pulmonary Tuberculosis in Children" that I thought that an account of our method of procedure at the Maybury Sanatorium and also at the Herman Kiefer Hospital, may be of some value. The basis of this report is furnished by the complete examination of about 1500 children all of which were hospitalized for periods, never less than one month and most of them for many months and during this period a diagnosis of tuberculosis was either made or ruled out. Nearly all of these children were definitely exposed to tuberculosis, most of them were underweight and had slight elevation of temperature, many of them gave positive skin tests, most of them were suspected strongly of being tuberculous.

The ages covered are from two to twelve years. I wish to emphasize the fact that they were under constant observation, such as is possible in a hospital, and that it is fair to assume that a correct diagnosis was eventually obtained.

SEEK UNIFORM TECHNIC

At the beginning of this work the first problem to settle in the Roentgen Laboratory was a constant and uniform technique. We found it quite impossible to obtain stereoscopic projections, so we obtained a uniformly good flat exposure before attempting any reading. After the age of eight we were able to get stereoscopic films of proper quality. Now, as regards the reading of the films, the literature is burdened with conflicting opinions as to the value of increased root shadows, which are supposed to be due to glands, and increased lung markings along the main branches of the bronchial tree. Many authors felt that the x-ray examination is only a small link in the long chain of evidence which must be obtained. The chain must consist of seven or eight important links and if four were present the diagnosis could then be made. You will agree with me that the condition presented difficulties and that, likely as not, my opinion on the subject would bear little weight. A condition of this sort, as you see, resolves itself into a problem of elimination and such a state of affairs might be pardonable in a rare condition like myocarditis, but it is a serious handicap when employed in a common and dreaded condition like

pulmonary tuberculosis. What my personal opinion was in this regard, is of little value as the best authorities ventured no farther than to present a link which may or may not be useful. The first step we undertook was to establish the fact that anything reported must be so definite that if the same film came up for re-analysis we would not render conflicting opinions and the second step was that we undertook to express a definite opinion as regards the presence or absence, in the parenchyma of the lung, of active tuberculous disease, later we went a step farther and included glandular involvement. We reasoned in this manner that if our opinion was only of the "take it or leave it type," we could at least offer complete evidence of innocence or guilt. At this point I should like to express my gratitude of Doctors Douglas and Amberson for the support and encouragement received. They were both much interested as well as capable and gave me unlimited help and advice.

LYMPHATICS EARLY INVADED

The result of this work is that I am fully convinced that we can give as much information from an x-ray examination in the child as we can in the adult.

As regards the incidence of pulmonary tuberculosis in children of all classes, many conflicting opinions are found and this subject will receive more attention due to present day better methods of attack of this interesting problem. Our opinion is that the incidence has been placed much too high and a downward revision will some day follow. In our cases definite and prolonged exposures existed so it is of course much higher, and in these we find it positive in about 40 per cent.

In our summer camps of boys and girls, also exposure cases, but without the definite diagnosis we find it present in 5-6 per cent.

The early invasion of the lung with tu-

* Read before the Section on Pediatrics at the 108th Annual Meeting of the Michigan State Medical Society, Detroit, September, 1928.

* Dr. Birkelo graduated from Rush Medical College 1914. He is consultant Roentgenologist to Herman Kiefer Hospital and Maybury Sanatorium at Northville, Mich.

berculosis is confined essentially to the lymphatic system. This system forms a network of vessels and nodes draining the entire lung fields. The nodes are abundantly present near the roots of the lungs and these nodes are undoubtedly the first to show definite evidence of the disease. When a single node is involved we will likely find no x-ray shadow to indicate disease, but when a group of them are involved definite shadows are obtained and symptoms are usually present. These findings are much more important in the child than in the adult, because such shadows in the adult may result from scarring due to former pathology. In the so-called primary complex, if the original infection is small enough to involve only a single gland or a small group of glands, we undoubtedly would fail to record it in a roentgenogram with sufficient clarity to definitely recognize such a condition, but such a small infection in all probability is so common in school children and causes so few symptoms that it is more often never looked for. Post-mortem findings seem to indicate that most of us have had such a complex, although no history of a possible attack of the disease can be obtained.

When we see groups of glands at the roots, they are quite definite and we have been able to observe them when they have resolved and when they have passed beyond control.

PARENCHYMAL INVOLVEMENT

As regards parenchymal involvement, I should like to emphasize the fact that tuberculosis of the lung has rather definite and outstanding characteristics which we should recognize when present and when absent we should be able to rule out tuberculous parenchymal disease. The bacillus has definite physical proportions of size and shape and definite staining characteristics as well as cultural peculiarities by which it is known and recognized and it is fair to assume that its particular mode of growth, in the lung, should also follow in a fashion possible of recognition even when the growth is scant or the lesion small and it is our belief that as we see more and more of the method of attack in children we will be better able to recognize the early lesion and what is just as important, rule out the disease in the absence of such findings and be better able to find the correct diagnosis.

The acute forms of the disease are much more common than commonly supposed and as this type of lesion is mostly exuda-

tive or pneumonic in type it is easily diagnosed, and as this type is very fatal, it is often thought that if it had been discovered in its incipency a better outcome may have followed. This is probably not true as we find many cases almost as acute and with almost as sudden onset as a pneumonia and little can be accomplished with any type of therapy.

In the chronic forms of the disease is where we find the greatest variation, both in the type of lesion and also in the areas of involvement. Here we find the small evanescent type of lesion which may at one time be present and would show definitely in a roentgenogram and under favorable conditions disappear without leaving trace in a much shorter period than it would take in an adult. That the extensive as well as small tuberculous lesions disappear without leaving an x-ray evidence is now an established fact in the adult, though it is not so many years since we thought just the opposite. As regards the comparative rapidity of change in the child and the adult let us consider or review for a minute a few physiological facts of which we are in possession.

We are able to demonstrate callous in children on the tenth day following a fracture and in the adult we see it first on the 21st day; similarly in acute infectious diseases the course is shorter and often described as less severe in children than in the adult and it seems logical that we should find the same reaction much more quickly and if a ray is made at the proper time the lesion would have been found and when absent why speculate on its possible presence in some invisible form? That such changes happen we have proven to our own satisfaction and present them to you with this interpretation that pulmonary tuberculosis has definite and outstanding characteristics, clearly visible in the roentgenogram and the individual lesions are no different in the child than in the adult. Failure in registering such lesions or findings indicate the absence of the disease with the same degree of accuracy in the child as in the adult. In substantiation of this statement, I wish to state that in our hospitalized series we have failed to establish the diagnosis of pulmonary tuberculosis in any case where x-ray findings have been lacking.

X-RAY IN EXAMINATION OF ADULTS

In the adult type of pulmonary tuberculosis, be it acute or chronic, exudative or productive, the early lesions are found in

one or the other of the upper lobes in about 98 per cent of cases. This does not include the primary complex. In children, on the other hand, in the first four or five years of age, we find more often the middle portion of the lung involved or even the base, after the fifth year usually the upper lobes as in the adult. Why this is so we do not know and one theory is probably as good as another, such as the one offered by Walsh, namely tuberculosis attacks the areas of greatest physiologic activity, because of the aerobic characteristic of the bacillus.

The area of the greatest physiologic activity, he claims is in the apical region in the adult and probably at the lower level in the child. This, as you know, is quite contrary to an opinion formerly held, namely, that the apical regions in the adult contained more sluggish air currents and for that reason the beginning lesion was less disturbed and hence better able to develop. I am not defending either opinion as one may be as good as another.

We have had several cases of pulmonary tuberculosis in our series, which apparently recovered quite completely from a rather extensive bilateral disease to continue for some time symptom-free and at the age of puberty a fresh attack occurred with disastrous results. This happened while patients were hospitalized and all possible care given. Such lowered resistance, according to the German writers, is found at this period much more frequently in girls than boys.

DIFFERENTIAL DIAGNOSIS

Broncho pneumonia is outstanding in its similarity, first of all as regards location in the lung. We have inner and middle lung field involvement and usually not far from the root. If the pneumonia is at all extensive, it may not be difficult of differentiation, but in the small patches of consolidation and during the stage of resolution it has many characteristics in common with tuberculosis and it is necessary to re-examine in ten days when differentiation can be definitely made. In the majority of instances, the history of sudden onset, with a rather high persistent temperature will differentiate the two conditions, but the self-limiting progress of pneumonia will serve best in differentiation.

Scarlet Fever—In this condition broncho-pneumonia is a very common complication and it is usually very extensive and may resemble a blood borne dissemination

of a tuberculous process. The inner and middle lung fields may be involved on both the right and the left sides, but seldom do we find the outer lung field involved in this broncho-pneumonic process and almost always do we find it involved in a tuberculous process of equal extent. The history of Scarlatina should serve as a never-failing warning of the actual process.

Bronchiectasis—The causes of bronchiectasis are many and range from a congenital to acquired forms. Any chronic pulmonary lesion may produce it and stopping up of secretions and fibrosis may cause dilatation of the bronchi and bronchiectasis results. The location of such a process is usually in the lower portions of either or both lungs, and the lung markings are more than ordinarily prominent and the condition may resemble closely a basal tuberculous lesion, of the productive type. Lipiodol instillation will definitely identify the lesion, but experience has shown that Lipiodol instillations should be avoided, in an active tuberculous process, so that it becomes necessary to watch the sputum, temperature, history and duration of illness before Lipiodol may be used. Dr. Weise states that hemorrhage in pulmonary tuberculosis in children is rare, but it is not infrequent in bronchiectasis.

Lung Abscess—This is a common condition in children and often results from non-opaque foreign bodies, which obstruct a bronchus and proceed to decay. The onset is usually sudden and careful history of either tonsilectomy or eating peanuts will surely suggest the condition. Bronchoscopic examination should be done and a foreign body will usually be found or at a later stage the abscess may be opened.

Paravertebral abscesses from a Pot's disease, in the upper thoracic or lower cervical segments may and often do simulate large caseous glands, and X-ray of the spine will usually differentiate these conditions, and it is not common to find active pulmonary tuberculosis and bone tuberculosis at the same time.

Heart Lesion—Will cause considerable pulmonary congestion and when chronic give rise to fibrosis. The shape and size of the heart should serve, not only to identify the heart lesion, but also the chambers involved. These increased lung markings are due to vascular shadows and they fade as they reach the middle lung fields and do not involve the outer lung field and they should be identified as they lack the

flaky appearance of tuberculous infiltrations.

SENSITIZATIONS TO FOOD AND PLANTS

Here we have a field which is little explored and sensitizations to food and plants occur in the child as well as in the adult. They will cough and sneeze, lose appetite and weight and become anemic and any type of nose and throat infection making the rounds finds a ready subject and the ground well prepared. These children have tonsils and adenoids scraped out without relief and tuberculosis is suspected, but does not develop and the outcome has often been this, that they learn to avoid offending substance and improve and later may lose sensitiveness. This group of cases, we believe, is the largest of all tuberculosis suspects and if a history of exposure co-exists, the diagnosis of tuberculosis is usually made. Here is where the X-ray examination should show the way and will do so in the future. They have neither infiltrations, nor groups of glands near the lung roots.

There are other infections which might be mentioned, but these are the most common and the most troublesome. At last I wish to offer an apology, if the view presented to you appears radical and in your opinion, unsupported by facts as presented. The only excuse I have is that we reached these conclusions as a result of our work and as time passed and our experience has increased, we have found increasing support for the stand that the x-ray examination in the child is just as definite in point of information as it is in the adult.

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DISCUSSION OF DR. BIRKELO'S PAPER

DR. C. A. WILSON (Detroit): Mr. Chairman, I think tuberculosis in childhood is one of the things we find rather difficult to diagnose in a great many cases. It seems to me that some very definite findings are essential to a diagnosis of tuberculosis in children. The National Tuberculosis Association put out certain definite minimum standards of diagnosis of tuberculosis, and

they are briefly, of course, a history of exposure, physical signs and symptoms, positive tubercular reaction and x-ray findings. Dr. Amberson, as Dr. Birkelo mentioned, was a member of the committee that put down those certain standards. I am quite interested in this work that Dr. Birkelo has been doing, and his report, and also the report Dr. Amberson gave at the Herman Kiefer Hospital a couple of years ago on "X-ray Findings of Tuberculosis in Children," which is based, I presume, largely on this type of work.

It seems to me we can expect, and we should expect, particularly as Dr. Birkelo brought out here, definite findings on the x-ray if the child has tuberculosis. Certainly it is not necessary to find them at the time of taking the blood test. I think we have often had a tendency to consider a child as tuberculous because of positive tuberculin test, possibly without even a history of exposure. Last spring, about seven or eight months ago, a baby under one year of age came to me. The mother was ready to resign, expecting the child to die. She came more or less hopelessly and asked me if I could do anything. She said the baby had tuberculosis, and she wanted to know if I could cure it. I told her if the baby was tuberculous, it probably would die. The baby had several positive tuberculin tests, had x-rays, and had been definitely diagnosed as tuberculous.

When a rectal abscess was opened thoroughly and drained, the baby's temperature went down. Within two or three weeks the baby was nearly normal. The child simply had a bronchial pneumonia, which cleared up rapidly. I think we need some very definite tuberculous findings. The positive tuberculin test should not be considered tuberculous.

DR. G. G. TOWSLEY (Grand Rapids): I do not see many children. I feel like Dr. Wilson, that there should be some pretty definite findings regarding tuberculous children. In institutional work I hesitate to take children in unless they are definitely tuberculous. I feel that we do more harm than good with these children. We do not hospitalize children in our institution. They must have definite findings, as you mentioned, on the standards of the National Tuberculosis Association. I was interested in some work several years ago that later was reported to the National Association—doing tests on rural children. We did tests on 1500 children of school age, children with positive contacts, children of doubtful contacts and children of no history of contact with tuberculosis. The work was reported by Dr. Schroeder. The findings changed, to a great extent, our previous ideas on the prevalence of the tubercular infection in children. We found in the children with positive contacts, naturally, the infection ran high, but in the children of doubtful and no history of contact, we found the prevalence of infection was much lower than what had previously been reported.

DR. FRANK VAN SCHOICK (Jackson): About two years ago work was started in Ann Arbor at University Hospital. The work was started by a routine intradermal tuberculin test on all children admitted to the hospital. The tuberculin reactions were between 45 and 55 per cent positive in the children admitted, taking no cognizance of the place from which they came, or through which department they entered. That result is quite at variance with the results Schroeder reported some years ago in the rural districts of Minnesota where the average was about 10 per cent.

It was found in Ann Arbor, in checking up on

the x-ray findings of all of these children who had positive tuberculous reactions, that the x-ray findings varied considerably, and that variance was pretty closely associated with the degree of positiveness of the tuberculin reaction.

The tuberculin reactions were done in various stages; the first .1 milligram of old tuberculin injected intradermally, and if that was negative, .5 milligram injected, and if that reaction was negative, 1 milligram was injected—these injections following after a three to five-day interval. If we found x-ray evidence of involvement of the lung, whether in the parenchyma or root of the lung, it followed pretty closely to the degree of positiveness of the tuberculin reaction. The more positive reactions, the ones that occurred with the .1 milligram, almost invariably showed some involvement of the root of the lung.

The cases that the doctor has pictured we saw very infrequently at University Hospital, though I would emphasize the fact that a positive tuberculin is not evidence of a tuberculous activity to the extent of producing symptoms in the child. The degree of positiveness of the tuberculin reaction, I do feel casts some light on the activity in the process.

DR. A. L. JACOBY (Detroit): Considering tuberculosis in children between two and twelve on the physical findings either by x-ray or by ex-

amination is the least important. There are two main questions to be answered. One is, "Has the child been infected?" That can be determined by the tuberculin or intradermal test. The second is, "Has the child got activity?" That can be determined by the general condition of the child, the temperature, the loss of weight, the fatigue, and those signs. The involvement of the tracheo-bronchial glands, of course, appears early in the stages of tuberculosis. But if we find that the child has tuberculosis and does not involve any of the primary organs, like the parenchyma of the lung, or the bones, or the meninges, or the peritoneum, then we can go ahead and treat that case as a tuberculous condition, whether or not we have any physical findings.

DR. C. C. BIRKELO (Detroit, Closing the Discussion): I thank the gentlemen for the general discussion. I might say that the problem of making definite diagnosis is an economic one. We have a waiting list of children demanding hospitalization. It is quite important to decide that they have tuberculous disease, and if they have not, those others who may have it, can be admitted. That is largely the reason we started out in this fashion. We saw so many we felt were not tuberculous, and we tried to weed them out from the series, in order to let others come into the institution.

ACUTE PEPTIC PERFORATIONS

L. C. SNODGRASS*

FLINT, MICHIGAN

Acute peptic perforations are found next in frequency to acute appendicitis in the list of operations for acute conditions of the abdomen in most clinics. They are rare in the colored race and so rare in the female that at least one writer, Gibson of New York hesitates to diagnose the condition in a woman. They are rare in children but may be found at any other period of life and are most common in adult life from twenty to fifty. All of the cases in this short series were of the asthenic type with the narrow epigastric angle so well described by Draper in this country and Bauer in Vienna.

The etiology of the condition is probably the same as that of the ulcer itself with the factor or factors operating in a more extended or more severe form. Many theories are advanced in the causation of ulcer and these may be briefly classified as digestive, mechanical, infectious, toxic, circulatory, inflammatory, endocrinal and any combination of the above named causes.

Operation within six hours of onset of the acute symptoms offers the patient a good chance of his life. From six to twelve or eighteen hours, the outlook is dubious and beyond this interval the prognosis is very poor. The patient with the empty stomach when the perforation takes place has a better chance. Also, those who have a perforation in the posterior wall of the stomach into the lesser cavity, with the consequent filling of this cavity and finally, an outpouring of stomach contents from

the foramen of Winslow, are said to have a better prognosis. The advantage in this delay of the invasion of the general peritoneal cavity is somewhat offset by the fact that the rate of absorption is reported to be greater in the upper part of the peritoneal cavity than in the lower. The average mortality given in the literature varies greatly and may be placed at from 15 to 50 per cent.

With the prognosis in mind, a review of the conditions that develop when a peptic ulcer perforates may be in order. The great majority of perforations are found at the pylorus or within two centimeters of it in either direction. Most of these are on the anterior wall of the stomach, in explanation of which, Davis in his *Applied Anatomy*, points out that because of the greater mobility of the anterior surface, there is less chance for the formation of protective adhesions. With the perforation taking place anteriorly there comes a rapidly developing general peritonitis.

* L. C. Snodgrass, University of Mich., 1927. Surgical Resident in Hurley Hospital, Flint when above article was written. At present surgical resident in Orthopedic Hospital and Infirmary for Nervous Diseases, Philadelphia.

With the perforation posterior, the result is the same but there is a longer interval before the process becomes generalized. There may be a double perforation occurring in multiple ulcers. A small perforation may occur which seals itself with the disappearance of signs and symptoms. We have seen such a case here within the last year with typical signs and symptoms of a perforation following a long ulcer history. The man refused operation and we gave him up for dead only to find him much improved the next morning. This case is not included in the present series.

Not infrequently, the ulcer perforates into another viscus forming a fistula. The most common of these is the gastrocolic. Seven cases have been reported in which gastric ulcer perforated to the heart. The records show eleven instances in which the pericardium alone was perforated. There are also authentic cases on record of gastro-pulmonary fistulae formed through ulcer perforation as well as gastro-cutaneous fistulae formed in the same manner. Gastroduodenal fistulae are more common with the third portion of the duodenum than with the first. The reader is referred to a brief but excellent summary of the literature on these fistulae by Dr. Robert T. Monroe of Boston in a recent number of the American Journal of the Medical Sciences.

Sixty to seventy-five per cent of these cases die of peritonitis according to most writers. Empyema, sub-diaphragmatic abscess and pulmonary abscess account for a goodly number. Most series show a small number of deaths classed as anesthetic deaths. One or two per cent may have a second perforation. One wonders why more of these people do not die of hemorrhage from involvement of the large vessels in the vicinity. At least one of the anatomists offers a partial explanation for this when he states that the large gastric vessels often lie a short distance away from, and not in immediate contact with, the stomach wall.

There are no associated conditions present which bear a constant relation to the perforation. While X-raying the chest on some of these cases to determine the position of the diaphragm we found one case of active pulmonary tuberculosis and one other case which strongly suggested aortitis. It has been pointed out that it is not uncommon to find ulcers in other portions of the gastro-intestinal tract in association with gastric ulcer. These are more common when of infective origin but may occur in

simple, acute gastric ulcer. Bolton in his book, "Ulcers of the Stomach," describes them in the duodenum, esophagus, lower end of the ileum and the colon. Barron, reporting in the Archives of Surgery, gives four cases associated with ulcer of the stomach in a series of fifty-three simple ulcers of the colon.

The ulcer history with the sudden onset of severe epigastric pain associated with a board-like rigidity usually makes the diagnosis easy. The white count is of little value in differential diagnosis. The rectal examination may actually point to a diagnosis of appendicitis due to the arrangement of the mesenteric attachment guiding the gastric contents to the right lower quadrant.

The pain in these cases is extremely severe and the patient may be found in shock. Many writers describe this pain as radiating to the shoulders when the case is seen early. We have seen this in only one case. It may radiate through to the back. Later the patient may describe the pain as generalized through the abdomen with the maximum point of tenderness as having settled in the epigastrium or in the right lower quadrant.

The abdominal rigidity, when one considers the short time in which it is produced and the characteristic order in which it spreads in early cases, is almost pathognomonic. DeWitt Stetten of New York City in an article in the American Journal of the Medical Sciences emphasizes this striking clinical sign in admirable fashion. He points out that the first rigidity is found in the right upper quadrant, then in the right lower quadrant, next in the left upper quadrant and finally in the left lower quadrant. If one is dealing with a rather lax abdominal wall this may give a relative ballooning of the left lower quadrant and he describes such a case. This sign will only be of value when the case is seen early and followed closely.

X-ray may show a layer of air just under the diaphragm usually on the right side when the patient is in the erect position. Frequently it may be found by percussion that this layer of air has obliterated or diminished the liver dullness. At operation, in suspected cases one may open the peritoneal cavity under water to detect free gas in the cavity which is done at the autopsy table for the same purpose.

When the case is seen late, it is often impossible to differentiate it from peritonitis resulting from a varied etiology. The differential diagnosis will include among

other conditions acute appendicitis, cholecystitis and cholelithiasis, abdominal angina, coronary thrombosis, tabetic crisis, volvulus, mesenteric thrombosis, a perforation in the gastro-intestinal tract lower down, diaphragmatic hernia, acute hemorrhagic pancreatitis, a dissecting aneurysm of the lumbar aorta and non-perforated pyloric ulcer with a large retroperitoneal hernia. We have had one case of each of the last three conditions named and their rarity is only matched by the difficulty in differentiating them.

Below are listed fourteen cases of perforated peptic ulcer which were operated in Hurley Hospital from January 1, 1928, to January 1, 1929:

It will be seen that the age varied from 20 years to 48 years for the simple ulcers and 53 years for the carcinomatous ulcer with perforation. All of these cases fell into the second time grouping, being well over the six hour interval between onset of symptoms and operation except two. The urine and the blood findings offer nothing out of the ordinary. Those having a high pulse rate on entry were fatal cases, due,

no doubt, to the advance stage of the peritonitis. One case at autopsy, showed another ulcer, not perforated at the pylorus directly opposite the perforation; an example of the kissing type of ulcer.

The treatment of these cases was simple closure of the perforation with or without the use of the cautery except in two instances where posterior gastroenterostomy was done. Drainage was instituted in all of these cases. Appendectomy was done in three instances. The length of the operation varied greatly, from 14 minutes to one hour and 52 minutes, the two longest operations being the gastroenterostomies.

Under complications should be mentioned one case in which the sutures digested free, allowing a knuckle of small bowel to appear in the incision. This man was taken to the operating room and re-sutured and died on the following day. One of the two cases with the gastroenterostomy performed had an uneventful convalescence. The other case developed signs of intestinal obstruction and died 31 days following operation. Partial autopsy disclosed

	Length of ulcer history	Interval between onset of acute symptoms and operation	Interval between operation and death in fatal cases	Blood	Urine	T. P. R. on entry	Hospitalization Period—Days
Mr. S. S. Age 40 (fatal)	1 year	19 hours	5 days, 4½ hrs.	Wbc 23,800. Polys. 90% Rbc 5 million. HgB 100%	No report	T-99.2 P-120. R-20	
Mr. C. J. Age 32	3 years	Not known		No blood specimen	Negative	T-97.8 P-80. R-28	25
Mr. C. F. Age 48	2 years	17 hours		No blood specimen	Negative	T-98 P-100. R122	22
Mr. W. De W. Age 35 (fatal-late)	4 years	Indefinite—not more than 24 hours	31 days	Wbc 29,800. Polys. 92%	No report	T-99.8 P-110. R-24	
Mrs. A. B. Age 32 (fatal)	No record	No record	14 hours	Wbc 11,200. Polys. 83%	Few pus cells. Albumin +	T-101.8 P-136. R-30	
Mr. O. D. (colored) Age 20	2 years	24 hours		Wbc 14,750. Polys. 81% Coag. time, 4 min.	Sugar ++	P-100. R-32	20
Mr. J. S. Age 29 (fatal)	Several months	No record	16 hours	No blood specimen	No report	T-97.2 P-136. R-42	
Mr. J. P. Age 23 (fatal)	2 months	30 hours	51 hours	Wbc 14,650. Polys. 85%	An occasional red blood cell	No record	
Mr. R. D. Age 30	No previous ulcer history	No record		Wbc 21,000. Polys. 92%	Negative	T-99.2 P-100. R-34	45
Mr. E. J. Age 47	5 years	5 hrs.-30 min.		No specimen	Numerous pus cells. Sugar +	T-98 P-110. R-20	37
Mr. J. G. Age 28 (fatal)	Stomach trouble entire life	18 hours	15 hrs, 25 min.	No specimen	An occasional pus cell	No record	
Mr. A. S. Age 35	"For many years"	10 hours		Wbc 16,500. Polys. 84%	Negative	T-99.2 P-80. R-20	10
Mr. S. C. Age 30	3 years	7 hours		Wbc 22,000. Polys. 80%	Albumin ++ Later exams. neg.	T-98 P-80. R-20	
Mr. S. P. Age 53 (carcinoma)	Sour stomach for 2 weeks	31 hours		Wbc 10,200. Polys 86%	Numerous pus cells Few granular casts	T-not noted P-120. R-20	26

intussusception at the site of the anastomosis. The colored man developed bilateral bronchopneumonia which cleared up in about a week. One case developed a subphrenic abscess which was drained and went on to an uneventful convalescence.

The perforation in the carcinoma case warrants special mention. This man gave a history of sour stomach for only two weeks and complained of nothing else. He claimed that he was never sick before in his life. At operation a large perforation near the pylorus was found which appeared to be carcinomatous. A biopsy was taken and the opening closed. The patient made a very nice recovery and the pathologist reported an infiltrating, undifferentiated carcinoma of the stomach, grade four in malignancy.

The one case of this series which we had the chance of seeing early showed a rigidity extending across the upper half of the abdomen and down into the right lower quadrant.

Six out of the fourteen cases showed preoperative vomiting which ordinarily was not of a severe type nor very persistent.

Perforated peptic ulcer suggests itself as an opportunity to study the movements of the diaphragm when stimulated from its inferior surface. Many of these people will say that it hurts them to breathe in the region of the diaphragm. A few moist rales can be heard at the bases in all of these cases before operation. After operation they all develop some cough and in one of the cases listed above, bronchopneumonia. Other high abdominal lesions, less acute in nature, are not usually associated with these annoying symptoms.

This phase of the question interested us greatly and we have X-rayed some of these chests to determine the position of the diaphragm and to see if the normal curves were present and to locate collapsed lung, if possible. Our results are very meagre

but suggestive enough to encourage us to continue the practice. In two cases the right dome was held slightly higher than normal and one of these showed a much more acute curve on the right than on the left. One other case showed some tenting of the left dome but this was thought to be due to adhesions between the visceral and diaphragmatic pleura. The limitation of the respiratory movements of the thorax before any surgery has been performed in these cases is a well known fact. The alanasae are often used to an exaggerated degree and the patient may actually grunt with each respiration.

Fourteen cases of acute gastric perforation with a mortality rate of 42 per cent have been presented. One perforation was in a carcinomatous ulcer. One of the cases presented is a female and one is a Negro. The long period intervening between the onset of acute symptoms and the time of operation again directs attention to the responsibility of the internist and physician who give these people medical treatment, to warn them to seek medical advice immediately when seized with severe abdominal pain. Attention is also drawn to interesting respiratory phenomena in this type of case before great abdominal distension has taken place. The advisability of gastroenterostomy in the face of acute gastric perforation is again seriously questioned. The characteristic order of spread of rigidity is a very valuable early sign in diagnosis.

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GLANDS PLAY ROLE IN MENTAL DISEASE

Deficient functioning on the part of certain glands plays a significant role in the development of a type of mental disease known as dementia praecox, Dr. R. G. Hoskins and Francis H. Sleeper of the Worcester State Hospital told members of the Association for the Study of Internal Secretion. These scientists made a study of 80 patients suffering from dementia praecox. They found that half the patients showed evidence of glandular deficiency. In 14 cases the thyroid gland was involved and in 13 the pituitary. In 13 other cases the specific gland at fault was not determined.

Gland treatment was given to 53 of the 80 patients. In half the group that has shown evidence of glandular disturbance or deficiency, significant

mental improvement took place following the gland treatment. Five patients became well enough to go home and treatment was suspended. Four others are continuing treatment but are nearly or completely free of evidences of the mental disease. Of the gland substances used in treatment, thyroid proved most effective.

Dementia praecox is a very serious disease, both to the individual and to the community. More than one-sixth of all hospital beds in the United States are required for patients suffering from this disease. It costs the state of Massachusetts alone about \$4,000,000 a year. For the individual it is a calamity worse than death.—Science Service.

MANAGEMENT OF OSTEOMYELITIS

GEORGE J. CURRY, M. D., F. A. C. S.

FLINT, MICHIGAN

It is impossible to cover this subject in detail in the time allotted, so I will only be able to discuss superficially some of the more important phases. A review of one thousand consecutive major surgical procedures showed acute or chronic osteomyelitis occurring forty times, so that in a practice of general surgery we can expect the ratio to be one to twenty-five. The occurrence of course, is much more frequent in a specialized clinic but for those of us conducting a surgical practice in the smaller, metropolitan centers, this may be a fair estimate. The above figures are taken from the writer's personal cases. At least the occurrence is often enough for us to be on guard as to its management when we are confronted with the same.

The acute inflammatory condition of bone structure usually designated by the term "osteomyelitis" is in reality an inflammation of all of the structures which go to make up the entire bone. A word as to the anatomy of bone would no doubt be essential at this time. The periosteum is a very vascular membrane surrounding the entire bone except at its articular ends. Attachment to the bony cortex is by loose, areolar tissue. Vessels and lymphatics pass from this structure to the endosteum and medulla. At the epiphyseal end it dips into the epiphyseal line and is densely adherent to the epiphyseal cartilage where it is differentiated from the periosteum covering the epiphyses. The cortex is made up of lamellae, parallel first with the periphery of the cortex, and second arranged in concentric rings about the Haversian canals. Through the Haversian canals blood vessels and lymphatics travel between the medulla and the periosteum. It is one-half to one-quarter inch in thickness at the middle and tapers off to paper thinness at the epiphyseal line. Cancellous bone is loose and makes up the bulk of the structure in the ends of the long bone. The medulla fills the medullary or central canal and extends down into bone ends to fill the interstices in the cancellous bone. The nutrient artery perforates the cortex at its middle and divides, one branch directed towards each extremity.

Inasmuch as osteomyelitis is a blood born infection with localization in bone, a primary focus is presupposed elsewhere in the body, and the treatment in general is that of the treatment of sepsis, and drainage is the rule. As a prophylactic measure the feeding and housing of children and improvement of their nutrition will go far toward increasing the general resistance. This is particularly true of children in densely populated districts, inasmuch as this condition is usually a disease of child-

hood and occurs more frequently in the heavily populated districts. The attention to skin abrasions, superficial infections, should be close.

Immediate treatment should be instituted as soon as the diagnosis has been made. The sooner this is done, the sooner the pain and toxemia will be relieved and the less destruction there will be of bone. An incision should be made over the point of greatest tenderness in the metaphysis. Care should be exercised to keep the incision clearly on the diaphyseal side of the epiphysis, to preserve the attachment of the membrane at the epiphyseal line. This precaution may save extension into the joint. If extension takes place into the joint, however, they frequently do better if left alone. Evacuate if the local symptoms become very severe or if the constitutional symptoms become alarming, preceded by aspiration. If the aspirated material on culture shows streptococci, multiple incisions may be made, evacuation of the material and no drainage inserted, followed by gentle active movements according to the method of Willem. Frequently this will be all that is necessary.

Dr. Bancroft of the Vanderbilt Clinic, New York, drills first in the suspected osteomyelitic area and if pus is encountered, a button of bone is removed and drainage established. If no frank pus is encountered, the drill hole will release the tension and permit the escape of pent up exudate. It should be the aim of all of us to make a diagnosis sufficiently early to prevent subsequent destruction of bone. Sometimes an acute periostitis is diagnosed. Incision is made and pus is found between the bone and the periosteum, and the surgeon does nothing more. Extensive necrosis follows and there may be an associated complicating septic arthritis. A frequent cause of delay in diagnosis is waiting for X-ray when a bone is suspected of having osteomyelitis. At an early stage, as you all know, the radiogram does not reveal any abnormality in the bone. No

curretting of this cancellous bone should be permitted as it cannot do good and destroys endosteum. It may be argued that in an early case, especially in a child, the area of infection cannot be found, but if we remember that the infection commences in the metaphyses of the affected bone, and supposing we do make a bad shot, the results of our mistake cannot compensate for the results of hesitancy and delay.

There is a small group of cases of which you all no doubt, have had, that raise the question, does osteomyelitis heal spontaneously? That sort of case that you have waited for sequestration to take place in, after you have first seen it in a well advanced state, and as you observed it radiographically from time to time, you note a return of trabeculation in the bone structure, and the case goes on to recovery. I have had several. Dr. Bancroft reported quite a number recently in a resume of this subject at the American College of Surgeons Congress in Boston. The radiographer cannot tell the difference at times between osteogenetic bone and necrotic bone. Definitely, radiographically described and recognized sequestra, have taken on trabeculation and the case heals.

It has been my experience and those I have been able to observe, that close observation clinically and radiographically, until signs of sequestration and involucrum take place, followed by a cratering of the

area is a good procedure. Removal of the sequestra as gently as possible, and the wiping away of the granulation tissue, preparatory to chiselling the crater, and obliteration of overhanging bone edges. This also applies to care of the circumscribed bone abscess, known as a Brodie's abscess. If a satisfactory crater can be made, soft rubber tissue drainage with closure of the wound, has been successful in my hands. If the infected area is so situated, so as to make an unsatisfactory crater, it may be necessary to pack the cavity from time to time to facilitate regeneration of bone from below up. Dr. Orr of Kansas City, advises the use of vaseline gauze dressings, and I have found them satisfactory in two cases tried. It seems that those cases in which the dressings are changed frequently, improvement is not as marked as in those in which the dressings are changed at four to five day intervals. I cannot account for this. Osteomyelitis frequently is complicated by a neighboring septic joint, due to extension from the epiphysis. The management of this has been mentioned. Dr. Ober of the Children's hospital in Boston, advises the use of a walking Thomas splint for diffuse Osteomyelitis. The constitutional treatment of the cases is, of course, accepted. Dr. Osgood, of Boston, states that his policies are early, adequate drainage for acute cases and as little surgery as possible with the chronic cases. There are no classical operations for osteomyelitis.

NEW PSYCHOLOGY TO INFLUENCE INTERNATIONAL POLITICS, PREDICTED

The new psychology will become one of the principal stabilizing influences in international politics, in the opinion of Dr. Bernard Glueck, well known psychiatrist of New York, who has recently returned from a professional visit in Berlin and Paris. "In Switzerland and Germany there is a wonderful movement toward shaping the coming generation along vastly more liberal lines," he said. "Eventually this education will have a profound influence upon economic and political relations throughout Europe. I believe that mental hygiene will go a long way toward making the coming generation in Germany less foolishly aggressive and more internationally minded."

Comparing America's mental problems with those of Europe, Dr. Glueck said that the greatest problem America faces today is that of learning how to use intelligently its leisure and wealth. Excessive wealth and leisure are coming to be one of the principal causes of both individual and social maladjustment in this country, he stated.

America's tendency to form mergers and consolidations in business and industry is bringing problems to practicing psychiatrists, Dr. Glueck pointed out. Every now and then a merger takes

away from some very active and promising young man the opportunity for realizing his greatest possibilities. He becomes part of a great piece of machinery, and in time perhaps feels that he has not made the most of himself.

"This American trend toward consolidations inevitably subordinates many who have shown ability to become leaders," Dr. Glueck said. "I don't know the answer, but if consolidation fails there will be something else. That is the really great thing about America; it never gets out of the experimental stage."—Science Service.

ACHYLIA IN PERNICIOUS ANEMIA AFTER LIVER TREATMENT

A. Hecht Johansen, Copenhagen, on examination found that nineteen patients with pernicious anemia, who had been treated with liver, or liver preparations, from three to seventeen months, and in whom all other symptoms disappeared or improved considerably, did not show any change whatever in the achylia present, as no free hydrochloric acid could be demonstrated in the gastric juice even after injection of histamine.—Journal A. M. A.

SURGERY OF THE PHRENIC NERVE AND INTRAPLEURAL PNEUMOLYSIS

E. J. O'BRIEN, M. D.*

DETROIT

In the treatment of pulmonary tuberculosis, under the old regimen of watchful waiting, in which patients were kept at bed rest until their disease had advanced so far that only the more drastic surgical procedures were of benefit, phrenic nerve operations were not often employed.

Since it has become clear to all physicians that early compression of some sort should be used in unilateral lesions to assist in their arrest before the disease has spread to the other lung, phrenic crushing and exeresis have taken their places along with artificial pneumothorax as valuable and necessary methods of treatment.

Operations on the phrenic nerve are performed to cause a paralysis of the diaphragm, this paralysis being made temporary or permanent by the choice of procedure. Paralysis of the diaphragm will be caused by simple cutting or crushing of the phrenic nerve and its accessory, which exists in about 20 per cent of cases, but the nerve will regenerate in five or six months and the diaphragm will resume its function. If a permanent paralysis is desired, the entire nerve, or at least a segment of it, as well as the accessory must be removed. The former procedure is called phrenicotomy and the latter phrenicectomy or phrenic exeresis.

Paralysis of the diaphragm causes it to thin out and rise into the chest, stops its pumping action, releases elastic tension of the lung due to negative pressure within the thorax, and also the pull of contracting fibrous tissue, and gives added rest and compression by the upward force of intra-abdominal pressure.

Artificial pneumothorax can be used in many of the conditions in which phrenic operations are indicated, and in many cases it must be given the preference. However, in those cases in which it seems that either procedure may be used with equal benefit, in my opinion phrenic nerve operations are more desirable. They are performed in a few minutes under local anesthesia with little or no danger in experienced hands, and the patients can in most cases continue their bed rest without further interruption. But pneumothorax once begun must be continued from one to five years with constant refills, which are burdensome to the patient.

I am of the opinion that practically every patient with a unilateral tuberculous lesion should be given some form of compression therapy and almost none of them left to bed rest alone. The fact that many lesions clear up without it does not change the fact that many of them do not nor that more of them would do so in a much shorter time if it were given. Physicians owe it to their patients or to those responsible for them to restore them as independent members of the community as soon as possible. In patients in whom lesions clear up without compression, rest is the predominant factor and, as compression gives added rest, physicians have no right, in my opinion, to withhold it if this can be accomplished without injury to the patient.

Even in the most innocent looking lesions, a crushing of the phrenic nerve gives much more assurance of their healing and is almost without danger if done by experienced hands. As the nerve will regenerate in five or six months, as has been stated, function will not have been lost but the patient will have had the benefit of its compression during that time.

Crushing should always be used, in my opinion, in minimal lesions not active enough to warrant collapse with pneumothorax but in which the added rest will give more assurance of their healing.

In patients with soft, exudative, rapidly spreading lesions, phrenic operations should not be considered. They should be given treatment by pneumothorax as soon as possible; but if the same lesion is seen after the activity has subsided and only a soft walled cavity remains, a crushing may be done. The lesion just described is attempting to heal by excavation and often the compression afforded by this procedure will suffice to cause its healing. After the crushing, frequent check-ups by means of X-rays should be made, and if the diseased area does not clear up readily or if re-

*Read before the Section on Surgery at the 108th Annual Meeting of the Michigan State Medical Society, Detroit, Mich., September 27th, 1928, as part of a symposium on Thoracic Surgery. By special arrangement this paper was also published in the Journal of the A. M. A.

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activation commences, a pneumothorax should be added at once.

In uncontrollable hemorrhage, even in bilateral lesions, if pneumothorax is not possible, crushing should be done on the side where the bleeding occurs. Of course, if the disease here is unilateral and extensive, an exeresis should be done.

Crushing is used before upper stage thoracoplasty for apical cavities containing a considerable amount of positive sputum if there is no disease in the remainder of that lung. Here it will give temporary compression to the lower lung while the chest wall is being dropped on the cavity, giving added protection against aspiration pneumonia without permanent loss of diaphragm function.

It is also indicated in those cases in which compression of a diseased lung is desirable and in which there is a suspicious lesion in the so-called good lung that it has not been possible to test out with pneumothorax because of the absence of free pleural space. It is a well known fact that if these suspicious lesions are activated following compression, such activity occurs soon after compression has been started. Therefore, while pneumothorax would have been preferable because it is possible to discontinue it at any time and remove the air if activity occurs, a phrenic crushing, because of its temporary effect, is to be preferred to exeresis.

When, in extensive lesions in one lung there has been a spread to the good lung, bed rest should be started if the patient is not already in bed, in the hope that the spread will clear up, giving one a chance to do something to the more diseased lung later. However, if in these cases, after a prolonged period of bed rest, a recent spread to the other side is found, it seems improbable that further bed rest will be of use and some form of compression should be done on the more diseased side as a last resort in the hope that it will clear up both lesions. Pneumothorax should be used here if possible, but if this is impossible a crushing should be done.

In early nontuberculous lung abscess in which there is free bronchial drainage with considerable foul-smelling sputum that is not clearing up after four or five weeks of bed rest, postural drainage and bronchoscopy, crushing should be done to give added rest and compression and to prevent chronicity of the abscess and bronchiectasis.

Phrenic exeresis should be done in unilateral tuberculous lesions that are not

very active, but are more extensive than those in which a crushing is indicated. These lesions are usually of the productive or mixed type not active enough to warrant pneumothorax.

It should also be done before a lung having an extensive lesion is allowed to re-expand after being kept down with pneumothorax for a period of several years. The fibrous tissue formed to heal this lesion will often contract the lung to such an extent that it may never again be able to fill the thoracic cage, and the phrenicectomy, in lessening the size of the hemithorax, will give the lesions added protection against reopening when the lung is allowed to expand.

In old fan-like mixed lesions at the apex, with or without cavity, that can rarely be controlled by pneumothorax, it is especially beneficial.

In the soft walled, infraclavicular cavities left after an active exudative lesion has attempted to heal by excavation, an exeresis is occasionally done if it seems that the lesion is too extensive to heal before the diaphragm would resume its function if crushing were done.

In the much feared basilar tuberculosis, I have seen startling results from phrenicectomy, but these lesions must be watched carefully afterward and, if the process is spreading, pneumothorax should be added.

Phrenicectomy is used as an adjunct to pneumothorax when adhesions to the lateral wall or apex prevent proper collapse of cavities—especially if the base of the partially collapsed lung is adherent to the diaphragm and it seems that the ascent of the diaphragm into the chest will relax them and allow a continuation of the pneumothorax to cause further collapse of the lung.

In cases without apical or lateral adhesions but in which proper collapse of a cavity cannot be made with pneumothorax because the cavity is in the lower lung field and the base of the lung is adherent to the diaphragm, I have seen excellent results with added phrenicectomy.

It is also indicated as a preliminary measure to upper stage thoracoplasty for an apical cavity throwing off considerable sputum—in which there is a lesion in the remainder of that lung. It is done here to compress the lower lung field as an added protection against aspiration pneumonia and to give compression and rest to the whole lung, putting the patient in better condition for the more serious operation.

It also gives a test of the other lung, and, as a complete thoracoplasty will be done here anyway, the loss of diaphragm function adds to the immobilization of the lung and is to be desired.

In old chronic lung abscess with free bronchial drainage and in bronchiectasis, phrenicectomy should be done before more radical procedures are used. It occasionally happens that further measures are not necessary.

Decisions as to the exact procedure in each case cannot be made easily. There is no other field of surgery, in my opinion, in which such close co-operation is necessary between internist, pathologist, roentgenologist and surgeon. No decision is ever made in our clinics except in conference with the entire staff. However, the general rules that are given here can be applied.

In a small percentage of patients undergoing treatment by pneumothorax, bands of adhesions between the lung and the chest wall are found that prevent proper collapse of cavities, and as the results from compression therapy in cavitation will be almost in direct proportion to the success in obliterating them, an attempt may be made to cut the adhesions and allow a more perfect collapse. Many small thin adhesions are encountered that can be stretched gradually by frequent refills of small amounts of air, and sufficient collapse obtained. This is especially true if phrenicectomy has been added. In my experience, it is only the thick adhesions that defeat one's purpose. Cutting of the adhesions (intrapleural pneumolysis) may be done either by the closed method of Jacobaeus or by the open method. As it is usually the larger thick adhesions, in the cases under my observation, that prevent collapse and as they are more safely cut by the open method, I prefer this and have had excellent results with it; but Dr. Matson, who is so proficient in the use of the closed method, employs it almost exclusively with excellent results.

I believe that most of the failures attributed to the open method are due to the fact that the pleural cavity has been opened by an incision between the ribs. I attempted this route once and found that because of the extreme thinness of the pleura it was impossible to suture it properly when the operation was finished, for air escaped even through needle holes, the pleural space was lost, and the lung re-expanded and could not be put down again.

To overcome this difficulty, I now make my incision down to the rib nearest the

adhesion to be cut, remove from 6 to 7 cm. of it subperiosteally and, after assuring myself that there is perfect hemostasis, make an incision through the periosteum and pleura, giving tissue of greater thickness to suture. This can be sutured tightly and pneumothorax will not be lost.

Perfect illumination of the pleural cavity may be procured during this operation if a small sized Cameron light is inserted in the cavity.

A tonsil needle is used to place sutures around the adhesions and, after these have been tied securely, the adhesions are severed by cautery, the lung immediately drops and the wound is closed.

Not enough cases have been reported as yet in which open pneumolysis has been done to permit a comparison of its results with thoracoplasty in these cases, but I believe that it should be given a more thorough trial.

I have not entered into the technic of phrenic operation, as this can be found in numerous articles on the subject. I have stated that it is a comparatively harmless procedure in experienced hands, but I wish to warn those who are not entirely familiar with it that they will encounter a great many anomalies. I have carried out this procedure more than 150 times and each time it seems different. One must be careful not to injure the thoracic duct, the large vessels, the brachial plexuses, and the sympathetic nerves. I believe that the incision should be made at least an inch above the clavicle to keep as far as possible from the thoracic duct, extreme care being used in blunt dissection until the transverse vessels of the neck are located. I have not had any untoward results in my entire series, although I did once encounter a hemorrhage from the transverse vein of the neck, which, however, was controlled and did not cause any ill effects. The higher the incision is made, the less danger will be encountered, but I find that more anomalies exist in this region. Phrenic nerves vary in diameter from the size of a thread to slightly larger than the lead of a pencil. Pain in the shoulder when the nerve is grasped cannot be relied on to establish the identity of the nerve. Phrenic crushing is more difficult than exeresis because one must be sure here to locate the accessory nerve, if there is one, as failure to crush both nerves will defeat the purpose of the operation. However, in exeresis it is sufficient to find the main phrenic nerve and remove it below the junction of the accessory.

PITUITARY TUMOR—REPORT OF CASE

EZRA LIPKIN, M. D.

DETROIT, MICHIGAN

The pituitary body, or the hypophysis cerebri, is a reddish gray, somewhat oval mass, measuring about 12.5 mm in the transverse, and about 8 mm in its antero-posterior diameter. It is situated in the sella turcica of the sphenoidal bone, between the anterior and the posterior clinoids. It is a ductless gland, and is of immense importance in the human economy. Like all other organs, it is subject to hyperthrophy and degeneration. It is composed of two lobes—the anterior and the posterior. The pars intermedia secretes the active principle of the posterior lobe—pituitrin. Overaction of the anterior lobe causes acromegaly; underaction causes dwarfism. Overaction of the posterior lobe causes diabetes insipidus; underaction produces dystrophia adiposogenitalis. Mixed affections of the two lobes have been reported, as well as hypophyseal disturbance in conjunction with perverted activity of other glands.

The following case is illustrative of a hyperfunction of the anterior lobe of the pituitary body with testicular hypofunction, as manifested in acromegaly with sexual impotence—a so-called eunuchoid giantism.

The patient, a man of fifty-one, took sick March 27th, with headache and vomiting. Previous to onset of these symptoms, patient had been perfectly well. He had just eaten supper, drank some beer, and therefore attributed his symptoms to the latter. However, even after several enemata, he continued to vomit, and on the next day developed blurring of vision in the right eye.

* Dr. Lipkin graduated 1920, B. S. in Medicine, University of Michigan; 1922, M. D., Detroit College of Medicine and Surgery. Interne 1923, Mt. Sinai Hospital, Cleveland.



Figure 1

He retained nothing by mouth, and was given morphine hypodermically for the headache. At this time he had a marked polydipsia, and continually asked for water. He had some remission in the symptoms on the third day, but in the evening of March 29th he had a recurrence of the symptoms which continued until the following morning, when he was taken to the hospital, where he received an intravenous injection of 5 per cent solution of glucose, which promptly stopped the vomiting.

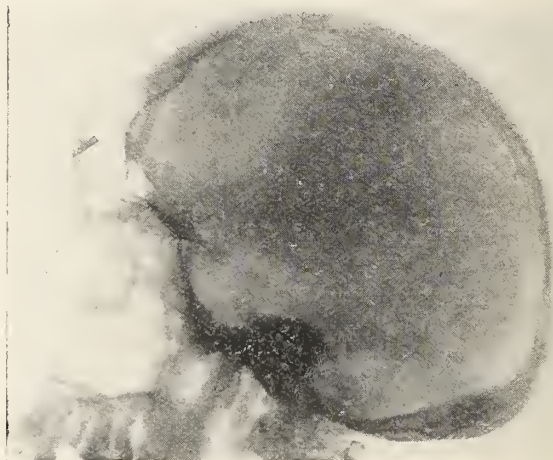


Figure 2

The first three days of the illness, the temperature and pulse were normal. During the following week, the temperature fluctuated, but never reached more than one hundred.

Past History—Patient had scarlet fever at nineteen, followed by nephritis. For the past eight or nine years, he had noticed that his hands were getting larger, that the lower lip had been increasing in size, and the features were becoming coarse. For the past three years he has had occasional headache, with some diminution in the acuteness of his vision. He has also had impotence for the past eight years.

Physical Examination—Reveals a very well developed and nourished adult male, with large, coarse, acromegalic features. Head is large in the vertical diameter, with a prominence of the lower lip, lower jaw, and nose.

Eyes—Pupils react sluggishly to light and accommodation. Extra ocular movements are normal. Slight nystagmus present.

Fundus Examination—Eye ground show bilateral neuro-retinitis with a slight papilloedema. This is equal in the two eyes. Both optic discs somewhat pale.

Visual Fields—Left, general contraction, slight temporal loss for color. Vision 20/100. Right, general contraction for form, some increase in loss of temporal field. Definite temporal loss for color. Vision 20/100.

Teeth show extensive pyorrhea.

Arms—The hands are extremely large, and are the typical "spade hands," with fingers very long and broad. There is a slight past pointing on the left. No adiodokinesis. Triceps equal in both hands, and there is no demonstrable atrophy.

Biceps, triceps, radial, and periosteal reflexes, normal.

Heart and lungs neg. BP 110/74.

Abdomen and genitalia negative.

Umbilical and cremasteric reflexes normal.

Legs—There is no atrophy or weakness of legs. Knee jerks bilaterally present and normal. Achilles normal. No Babinsky, Gordon, Oppenheim,

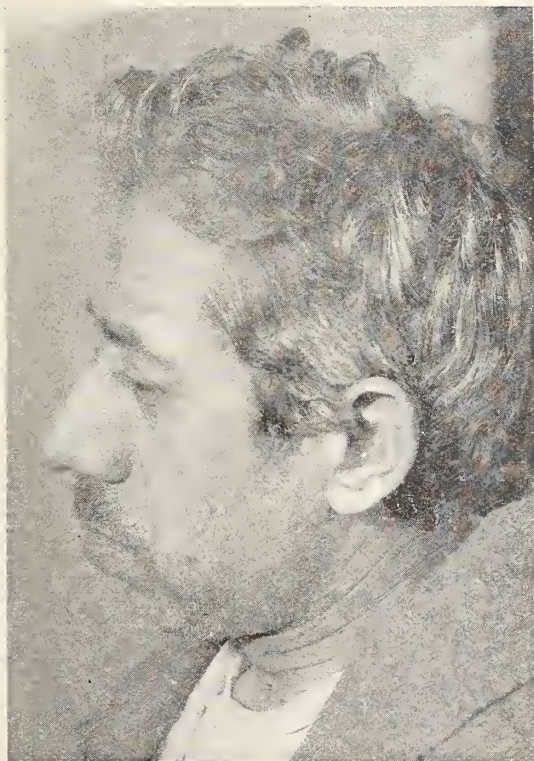


Figure 3

Chaddock. Feet considerably enlarged. Deformity in small toes of both feet.

Sensation—No impairment of tactile sensation, or sensation of pain—deep or superficial—stereognostic or thermal sensations. Vibratory sense is impaired in the legs.

Speech—No dysarthria by use of usual test words.

Memory—No impairment.

Station—Patient tends to sway in all directions.

Gait—No disturbance.

Laboratory data—

(1) Urine—March 29 and 30 showed albumin, casts, red and white blood cells. Subsequent examinations were negative.

(2) Blood Count—RBC 4,560,000; WBC 6,500; Pol. 72 per cent; Lymph 38 per cent.

(3) PSP—35 per cent first hour.

(4) Non prot. nitrogen, 3/30 46 mgm; 4/1 33.4 mgm; 4/2 35.3 mgm; 4/3 27.3 mgm. Creatinine, 2.4.

(5) Blood cholesterol, 200 mgm.

(6) Blood sugar, .100 per cent.

(7) Sugar tolerance, fasting, 0.090 per cent; $\frac{3}{4}$ hour, \$.180 per cent; $1\frac{1}{2}$ hour, 0.166 per cent; $2\frac{1}{2}$ hour, 0.125 per cent.

(8) Basal metabolism, 18.

(9) Blood Wassermann, negative.

(10) Electro cardiogram, negative.

(11) X-Ray—Stereoscopic films of the skull in the right and left lateral position show the skull to be of the acromegalic type with unusual prominence of the jaws. The outlines of the sella turcica are indistinct. This structure is markedly enlarged. There is erosion of the floor with destruction of the posterior clinoids. The sphenoidal outline is not demonstrated. There is unusually large deep frontal sinus shadow. There is no evidence of erosion of the inner or outer tables, but there is some thickening of the skull, particularly in the frontal region. The hands and feet were also examined in the antero-posterior position, and these show marked enlargement of all the fingers and toes, with bony development corresponding with the size of these structures. There is some clubbing of the fingers and toes.

Conclusions—There is roentgen evidence of a pituitary tumor, without destruction of either inner or outer table. There is some thickening of the skull. The hands and feet show changes of acromegalic type.

Diagnosis—Pituitary tumor—possibly cystadenoma.

Summary—In view of the pronounced symptoms of acromegaly, there is obviously a hypertrophy of the anterior lobe. The involvement of the posterior lobe was not so evident, as the patient did not present symptoms of dystrophia adiposogenitalis, or diabetes insipidus. The impotence is probably due to testicular hypofunction, which sometimes complicates pituitary disorders.

A pituitary decompression, by way of the nasal route, has been suggested.

X-RAY THERAPY MAY PRODUCE HUMAN FEEBLEMINDEDNESS

X-ray therapy, one of the blessings of modern science, can in exceptional cases produce feeble-mindedness and deformity in human beings. This possibility has been discovered through investigations by Dr. Douglas P. Murphy of the University of Pennsylvania, who emphasized that the danger is limited to treatments with X-ray, which does not include the taking of an ordinary radiograph.

Mothers shortly before the birth of their children are sometimes treated with X-ray irradiation for malignant growths. If the growing child is subjected to the irradiation from the X-ray machine at the same time that the therapeutic measures are undertaken, it has been determined that there is about one out of three chances that it

will be feeble-minded. Malformations of the head and dwarfing of the limbs may occur under such conditions. Dr. Murphy has studied over a hundred instances of X-ray treatments under such conditions and he found that serious results had followed in one-third of the cases. There is no danger in an ordinary X-ray picture if it is taken of the mother before the birth of her child. Neither has Dr. Murphy been able to discover any injurious effects upon subsequent children from X-ray treatments that were given before pregnancy. With knowledge of the danger involved, Dr. Murphy explained, X-ray specialists will be able to prevent the risk of unhappy consequences.—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

WHERE CAN DIPHTHERIA OCCUR IN MICHIGAN?

After the devastating outbreak of diphtheria in 1921, all persons in the state interested in the conservation of child life determined to "make diphtheria ancient history in Michigan." Where this determination has been translated into the form of concerted and adequate action, diphtheria has actually disappeared. Seven Michigan counties did not have a single diphtheria case during the entire year of 1928. There were twenty-seven Michigan counties that did not have a single diphtheria death during the entire year of 1928. This is indeed a remarkable achievement and great credit is due the local organizations for the mobilization of interest in such laudable and constructive public service.

Just now at the opening of the diphtheria season it is well to make a study of both sides of the picture. We have viewed the side of accomplishment in counties where diphtheria is in reality and in truth "ancient history". Now let us determine if possible where diphtheria is most likely to occur during the present diphtheria season.

By far the highest proportion of susceptible individuals in the population are in the preschool and school age groups. To arrive at a fair approximation of the sum of these two groups of susceptibles, the following procedure was devised.

The number of births in the county for the year was multiplied by five to ascertain the number of preschool children. The number of school children in the county was taken from the latest school census as published by the office of the superintendent of public instruction. The total thus obtained was considered to be the approximate number of children and preschool children in the county. This number does not of course take into account the deaths of these age groups, the removals, the new arrivals, nor those naturally immune. The largest element of error is probably the fact that somewhere between 25 and 35 per cent of the children of these age groups are naturally immune to diphtheria.

With all of these sources of error, the figure for the county is probably the best obtainable for the particular purpose. Since these sources of error are uniform in the various counties they would offset each other and thus give a fair idea of the object of their collection.

The Michigan Department of Health has been manufacturing and distributing diphtheria toxin-antitoxin free of charge since 1922. From the distribution records of the Biologic Products Division, the amount of toxin-antitoxin sent to these various counties was obtained.

The next step was to determine the amount of immunization done in each of these counties. These immunizations were done largely with the diphtheria toxin-antitoxin furnished free by the Michigan Department of Health. Errors in these figures occur in the following ways. First, it is possible that some immunizations were done by physicians using material bought from commercial houses. Second, it is possible that all of the material sent to a county for immunizing campaigns was not used or returned. Third, even with the greatest care there is always a small amount of wastage of the toxin-antitoxin. These sources of error tend in part to offset each other. Likewise if these figures were equally operative in the various counties, they would act as an offset and the resultant figures in the final analysis would fairly represent the facts.

By subtracting the number of immunizations from the total preschool and school population as determined by the above methods, a fair approximation of the number of susceptibles remaining in the various Michigan counties was available. The numbers arrived at in the above manner were quite illuminating and are published because of their general as well as their local interest and application.

It was found that on the basis of the above tabulation, two counties, Luce and Roscommon, had immunized more than the combined preschool and school population. During the past five years there has been but one death from diphtheria in these two counties and this was an adult who had not been immunized. In these two counties practically every possibility has been removed of a pre-school or school child contracting diphtheria. From this highly desirable state of affairs the number of susceptibles in the counties ranged upward to 31,000.

The tables below give the counties in order of the magnitude of their susceptible populations as determined by the above method. Wayne County was purposely omitted since the last available census fig-

ures are considered too inaccurate for such a large and rapidly changing population.

Over 25,000 per county:

	Susceptibles
Genesee	31,000
Kent	30,000
Saginaw	29,000
Bay	25,000
	115,000

15,000 to 25,000:

Berrien	24,000
Muskegon	23,000
Oakland	22,000
Ingham	22,000
Kalamazoo	22,000
St. Clair	20,000
Calhoun	20,000
	153,000

10,000 to 15,000:

Allegan	10,000
Dickinson	11,000
Gogebic	10,000
Gratiot	11,000
Houghton	13,000
Lenawee	13,000
Marquette	12,000
Monroe	10,000
Macomb	12,000
Sanilac	10,000
Shiawassee	12,000
Tuscola	11,000
	135,000

5,000 to 10,000:

Branch	5,000
Cheboygan	5,000
Chippewa	9,000
Clinton	5,000
Delta	8,000
Eaton	6,000
Emmet	6,000
Hillsdale	8,000
Huron	9,000
Iron	9,000
Isabella	8,000
Jackson	9,000
Manistee	6,000
Mason	7,000
Menominee	9,000
Ontonagon	5,000
St. Joseph	5,000
Van Buren	5,000
	124,000

0 to 5,000:

Alcona	2,000
Alger	1,000
Alpena	3,000
Antrim	2,000
Arenac	1,000
Baraga	1,000
Barry	2,000
Benzie	2,000
Cass	3,000
Charlevoix	4,000
Clare	2,000
Crawford	200
Gladwin	3,000
Gratiot	2,000
Ionia	2,000
Iosco	3,000
Kalkaska	1,000
Keweenaw	1,000

	Susceptibles
Lake	1,000
Lapeer	1,000
Leelanau	1,000
Livingston	4,000
Luce	
Mackinaw	2,000
Mecosta	3,000
Midland	4,000
Missaukee	2,000
Montcalm	1,000
Montmorency	1,000
Newaygo	3,000
Osceana	3,000
Ogemaw	300
Osceola	4,000
Oscoda	700
Otsego	100
Ottawa	4,000
Presque Isle	3,000
Roscommon	
Schoolcraft	3,000
Washtenaw	4,000
Wexford	86
	79,000
	—D. M. G.

INDUSTRIAL HEALTH SURVEY

The Bureau of Industrial Hygiene is engaged in a survey of health service being conducted in the industrial, mercantile and public utility establishments in the state. No particular preference is made as to the institutions visited, except as they offer opportunity to observe the full scope of measures and methods employed in case of injured and ill employes, not including accident prevention devices.

The questionnaire items on which data are gathered in this survey were stated in the June issue of this journal. Thus far, ninety-six establishments have been covered. They represent twenty-four different types as to the nature of work and products. They range in number of employes from 150, the smallest plant promoting any definite health program, to 30,000 and more, in which plants there are well organized and equipped health departments. This survey, therefore, gives a fair cross section of the situation as to provisions and methods for health care of employes in such establishments throughout the state.

FINDINGS OF THE SURVEY

Health Service Staff: Twenty-four firms employ 44 full time physicians, twenty-two firms employ 48 part-time physicians, and 54 firms have arranged with one or more physicians for service "on call", this number including several firms that have, also, part-time or full-time service. Twelve firms have the service of medical group clinics. Nine have arrangements with oculists on part-time and eight give some definite attention to the teeth — examining and

recommending needed corrections. In all, there are about 230 physicians engaged on some plan for medical service by these 96 firms.

Several large corporations, as the Michigan Central and other railroads, the Michigan Bell Telephone Company and Consumers Power Company, have extensive medical service throughout the state, by physicians on call, on which the items cannot be well tabulated.

There are 190 trained nurses engaged in the first aid hospitals of these plants, ranging from one to nine in each. One corporation with 22 plants has 18 nurses in its employ. Eighteen establishments have their own visiting nurses, all reporting excellent results from the service, while 20 state that they depend on local visiting nurse associations or the insurance companies for this service. Fourteen firms state their desire or intention to establish visiting nurse service.

Twenty-six firms report a total of 60 first aid workers, the majority of them in plants with limited or no service by physicians or nurses, or where the health department is quite distant from the plants. In several establishments foremen are given some special first aid instruction. However, first aid work by laymen is being discouraged or not allowed, all accident or illness cases being required to report to the health department.

While the number of full-time physicians is increasing, the part-time plan seems generally favorable, in medium sized plants, a large number having such arrangements. In several plants, two or more part-time physicians schedule their time to cover the entire day. The majority of large plants have a full-time physician as director of the health department with one or more part-time men on the staff. Twelve more firms state their intention to have a full-time physician in charge.

Equipment: While the majority of plants started with one small first aid room, there are now separate waiting rooms in over half of the plants visited, doctors' offices in 30, separate examining rooms in 24, separate surgical rooms in 28, patients' rest rooms in 10, while only 18 have but one first aid room.

Thousands of dollars are invested in best up-to-date X-ray, physiotherapy, dental, optical and laboratory equipment. Twenty-two of the firms have plant emergency hospitals, from one to 12 beds each, and 42 have special arrangements with city or private hospitals.

Dispensary Service: The first aid or dispensary departments are open day and night in 32 plants. Complete records are kept of surgical cases in 71 plants, and of medical cases also in 54.

Only a few firms have carefully computed their losses due to illness of employees, but from the records kept of both accidents and illness they observe the far greater loss from illness. Hence the requirement that workers report to the health department for minor ailments, which enables it to aid in diagnosis, to make a record of the cases and keep in closer contact.

Physical Examinations: Forty-five firms examine everyone who enters their employ. Any physical defects are noted for record, to guard against, or to be corrected before employment is permanent. Twenty-seven also examine all employees on their complaint of illness, if desired, and 18 give regular periodic examinations to all (a few offering it optionally). Several state their determination to establish a system of regular physical examinations, 10 are planning to give examination and direction in care of the teeth of all employees. Three firms require certain remediable defects to be corrected before fully accepting an employee. Twelve give attention to the eyes by oculists, engaged on part-time. In the periodic examinations, special attention is given to the teeth, eyes, heart, chest, kidneys, hernia, and any conditions that warrant a close check-up.

Co-operation with the Family Physician: The importance of this matter is emphasized by over 50 per cent of the establishments consulted; they merely assist in temporary ailments or emergencies, by first aid, and to give instruction as to needs. Due respect is shown the outside physician, very few firms giving medical service in homes of employees, and but four give any attention to other members of the employees' family. Many call the family physician when wanted by an employee, and one firm always pays for his first call to insure the early attention that is needed. In some firms an absence of three days, from illness, requires a statement from a physician as to ability to return to work. By such methods, now practiced by the majority of establishments employing large numbers of workers, there is being developed a closer co-operative relation between the medical profession and industrial health departments.

A brief review of some health education

and safety measures now employed, and special recommendations for improvements in industrial hygiene, as gathered from the field, will be given in an early article.—F.A.P.

DIPHtheria AND SMALLPOX IN THE WORLD

The report of the League of Nations for 1927 gives some interesting figures on the cases of diphtheria and smallpox throughout the world. They are quoted below:

DIPHtheria:

	1925	1926	1927
U. S. A.	96,973	93,425	106,192
England	47,720	51,069	52,011
Russia in Europe	41,552	42,512	45,512
Germany	37,767	30,302	33,542
Russia Ukraine	19,330	23,602	24,218
Italy	15,383	14,923	18,879
Japan	13,858	13,644	15,211
France	12,096	13,348	14,289

SMALLPOX:

	1925	1926	1927
India	177,530	221,156	213,315
U. S. A.	29,450	33,392	36,709
England and Wales	5,365	10,146	14,767
Russia	10,927	9,946	10,270
Germany	24	7	4
Union of South Africa	71	115	60
No smallpox cases in Cuba, Belgium, Netherlands, or Switzerland.			

PREVALENCE OF DISEASE

August Report
Cases Reported

	July 1929	August 1929	August 1928	Av. 5 yrs.
Pneumonia	181	176	158	124
Tuberculosis	426	807	697	479
Typhoid Fever	22	43	70	89
Diphtheria	348	227	239	247
Whooping Cough	1,021	783	1,404	809
Scarlet Fever	543	307	264	307
Measles	953	228	185	158
Smallpox	239	113	50	50
Meningitis	133	66	17	8
Poliomyelitis	9	27	3	27
Syphilis	1,508	1,730	1,012	1,130
Gonorrhea	948	1,217	603	776
Chancroid	43	53	9	9

CONDENSED MONTHLY REPORT

August, 1929

Michigan Department of Health Laboratories

	+	—	+-	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				1789
Diagnosis	32	337		
Release	49	66		
Carrier	4	1280		
Virulence Tests	12	9		
Throat Swabs for Hemolytic Streptococci				1486
Diagnosis	62	140		
Carrier	16	1263		
Throat Swabs for Vincent's Syphilis				369
Kahn	1386	7281	94	8765
Wassermann	2	2		
Darkfield				
Examinations for Gonococci	289	2626		2915
B. Tuberculosis				366
Sputum	66	300		
Animal Inoculations				
Typhoid				253
Feces	16	55		
Blood Cultures	3	80		
Widals	15	79		
Urine	1	4		
B. Abortus	3	82		85
Dysentery	15	55		70
Intestinal Parasites				15
Transudates and Exudates				404
Blood Examinations (not classified)				161
Urine Examinations (not classified)				449

Water and Sewage Examinations	1100
Milk Examinations	15
Toxicological Examinations	2
Autogenous Vaccines	1
Supplementary Examinations	130
Miscellaneous Examinations	355
Unsatisfactory Specimens	170
Total for the Month	18950
Cumulative Total (fiscal yr.)	36305
Increase over this month last year	5200
Houghton Laboratory—	
Examinations made — Total for the Month	1752
Cumulative Total (fiscal yr.)	3769
Increase over this month last year	308
Grand Rapids Laboratory—	
Examinations made — Total for the Month	5755
Cumulative Total (fiscal yr.)	11914
Increase over this month last year	110
Typhoid Vaccine Distributed, c. c.	1388
Diphtheria Antitoxin Distributed, units	26899000
Diphtheria Toxin Antitoxin Distributed, c. c.	19010
Silver Nitrate Ampules Distributed	8,432
Scarlet Fever Antitoxin Distributed, pkg.	38
Scarlet Fever Toxin Dick Test Distributed	2380
Scarlet Fever Toxin Immunization Distributed	1180
Smallpox Vaccine Distributed, points	3450
Bacteriophage Distributed, c.c.	2034

FEWER YOUNG PEOPLE NOW DIE OF HEART DISEASE

Heart disease is taking fewer and fewer lives among the younger people of our country. While the general death rate from this disease is rising, figures collected by the Metropolitan Life Insurance Company show that this increase is chiefly among older people. In the younger group, up to 45 among men and up to 65 among women, distinct improvement in the cardiac death rate has occurred during recent years.

This encouraging decrease is evidence of the strides made in controlling diphtheria and scarlet fever and of the better and more intelligent care given to infectious diseases, including rheumatism, to diseased tonsils and to dental hygiene, officers of the company believe. The preventive aspects of heart disease are chiefly concerned with early life and are more effective then. Heart disease usually kills after 45, but it is during childhood that it is most often acquired.

At present over 225,000 persons die of heart disease in this country every year. However, another encouraging factor in the picture is that much of the increase in heart disease deaths after age 65 is probably the result of change in style of reporting deaths. When formerly the physician would have given old age as the cause of death he now gives heart failure or cardiac degeneration. About 60 per cent of the cardiac deaths occur in the age range above 65. At this age degeneration of the heart is more a natural than a disease process. Degeneration of the heart, kidneys and blood vessels is characteristic of old age and tens of thousands of old people die of such conditions every year. A great many of these deaths are therefore really the result of senility in which the heart impairment is merely an accompaniment of the breaking down of the other organs. But if the physician states on the death certificate that there is cardiac degeneration, these deaths are classed under heart disease in the mortality statistics.—Science Service.

THE JOURNAL

OF THE

Michigan State Medical Society

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Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M. D., Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

OCTOBER, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

DR. J. D. BROOK, PRESIDENT

A happy choice was made in the selection of Dr. J. D. Brook of Grandville, Kent County, as president of the Michigan State Medical Society for the year 1929-1930. Probably no other member has taken a more active interest in the affairs of the association than the newly elected president. Dr. Brook has been a member of the House of Delegates continuously since 1906, having occupied the speaker's chair in 1923. He has been a member of the House of Delegates of the American Medical Association since 1917. He is also a member of the Michigan State Board of Registration in Medicine, a position he has held for ten years.

He was born in Cleveland 53 years ago and came with his parents to Detroit and later to Holland, Michigan, with the result that he received his early education in the

Detroit schools and Hope College. He attended the Detroit College of Medicine where he was graduated in 1902. Dr. Brook has practiced in Grandville since his graduation. In addition to his professional activities he is active in civic affairs of his town, occupying a position as member of the Board of Education. He is a member of the staff of Butterworth Hospital.

Under Dr. Brook's leadership we may safely predict a year of progressive activity in medical affairs of the state. His popularity among the members insures their hearty co-operation in this common interest.

DETROIT AS A MEDICAL CENTER

Detroit is becoming widely recognized as one of the leading medical centers of the continent. It has long been popular as a convention city. The facilities, however, were never so ideal for entertaining large aggregations as at present. Detroit has 25,000 first class hotel rooms in which visitors to the city may be taken care of comfortably. The Masonic Temple Auditorium is one of the most spacious and ornate in the world for meetings.

And for medical assemblies while Detroit is still under-hospitalized, its hospitals are ample and suitable for clinical instruction. The city hospitals have been either enlarged within recent years or new buildings have been erected as in the case of the new Detroit Tuberculosis hospital, and equipped as well as the present day advancement in hospital furnishings will permit.

All this as prelude to the interstate Post-Graduate Medical Assembly to which Detroit and Wayne County opens the doors from the 21st to 25th of this month. The Post-Graduate Department in Medicine of the University of Michigan in conjunction with the organized profession of the state has been pioneer in the joint effort to promote post-graduate education. A welcome is therefore extended to any organization or movement whose object is to increase medical intelligence. Many of the present day leaders of the medical profession will be present in Detroit from October 21st to the 25th. We predict a large attendance not only of those outside the state but of the local (Michigan) profession as well.

EXOPHTHALMIC GOITRE

The treatment of exophthalmic goitre is a matter for close co-operation between physician and surgeon. In conditions in

which the causative factor of disease is definitely known, the treatment is comparatively simple. The causes assigned to Graves disease, however, are legend, ranging from focal infection to shock and prolonged worry. Heredity has also been included as a causative factor.

The normal course of this disease is variable, which fact should be considered in any form of treatment. It has been estimated that approximately half of the patients recover with or without treatment after various periods of invalidism; many of the remaining half are carried off by some intercurrent disease or by heart failure. In any case, however, efforts should be made to eradicate any possible septic foci, and at the same time the patient should be surrounded by conditions most favorable to mental calm. Rest, which is such a restorative factor in any abnormal condition, should be afforded the patient. Sufficient sleep should be secured if necessary by the employment of sedative drugs.

The past decade has witnessed the development of thyroid surgery until it has attained a high degree of perfection. Cases of Graves disease are being thoroughly studied and operative risks more carefully selected than ever before. Improvement in operative technique, as well as choice and method of administration of the anaesthetic, have reduced the mortality in some instances to as low as one per cent. Romanis* reviews five hundred cases on which he operated with a mortality of two per cent; he advocates the administration of iodine medication before operation. In this he is in agreement with Crile and Lahey. Romanis** advocates the removal of



Dr. J. D. Brook, President

a large amount of thyroid tissue at operation. "It is practically never sufficient," says he, "to remove one lobe and the isthmus, though this will create an improvement; it is not the least likely to be curative. A portion—varying in amount—of the other lobe should also be removed as well * * * The danger of causing myxoedema is apparently very small, for estimations of the basal metabolism reactions in many of these cases before and after operation have shown that it is very uncommon to find it reduced below normal after thyroidectomy." He advocates the removal of as much thyroid tissue as possible, stopping short of complete thyroidectomy. Not all thyroid surgeons, however, would agree to the removal of so much tissue.

The anaesthetic of choice is ether by

* London Lancet, July 20th, 1929.

** Loc. Cit.

the open method and as small a quantity as possible.

In well developed cases the London *Lancet* asks editorially, "What are the alternatives in treatment?" These consist of the "wait and see" policy, and the local application of radium or the x-rays, both of which methods yield a high proportion of complete cures. The *Lancet* regards the objections to surgery as largely theoretical, namely, that exophthalmic goitre is due to an unknown cause affecting the whole gland, so that however much is removed the stimulus to the remaining portion remains, and a low grade form of the disease is likely to persist or recur; that there is no accurate way of estimating the amount of the gland that should be resected in each case; and finally that the removal of a greater portion of a gland so important as the thyroid is unsound as a means of re-establishing its normal physiological action.

Experience has demonstrated that in Graves disease where medicinal measures fail thyroid surgery by skilled thyroid surgeons offers real hope to the sufferer.

"A SPRAIN IS WORSE THAN A FRACTURE"

This statement has come to be looked upon as a sort of surgical adage until the general use of the X-rays showed many of the so-called "sprains" to be concealed fractures. Many incomplete and impacted fractures were formerly overlooked and consequently went without proper treatment. Not only for the patient's benefit, which is always the first consideration, but also for the physician's peace of mind, the profession is everywhere enjoined against omitting the examination by X-rays of every case in which there is a suspicious bone lesion. Our own Medical Defense Committee have been persistent in warning the members in this regard. The Medical Defense Union of England has recently mailed a circular to its members urging the importance of radiographic examination in every case of suspected fracture. Clear, concise notes of the condition of the lesion should be made at each examination, more important in the case of injury than any other pathological condition.

In the instance of manifest bone lesion, greater care is usually exercised than in cryptic or concealed lesions. Many times an ideal approximation of the fragments is impossible. It must be remembered always that in the treatment of fractures two persons are concerned, the patient and the at-

tending physician; the best attainable result is possible only when we have the complete co-operation of the patient. Even though a perfect approximation cannot be accomplished, the surgeon has used every possible means to secure a good anatomical result and therefore has a good defense in the event of a suit for mal-practice.

The law requires that the physician or surgeon use the most approved methods at his disposal in the diagnosis and treatment of bone injuries. In this day of good roads and rapid transit the standards set are probably higher than ever before.

SURGERY'S DEBT TO PHYSICS AND PHYSIOLOGY*

The president of the British Medical Association in his annual address pointed out the debt of modern surgery to what he called the ancillary sciences. "Prior to the time of John Hunter surgery was almost entirely an art—a glorified handicraft, taught and practiced quite independently of all other arts and sciences, devoid of any physiological basis for its methods, and essentially empirical in its attempts at progress. Hunter, deeply imbued with the scientific spirit, introduced into surgery the method of careful observation, collection and collation of facts, and a thorough testing by direct experimental investigation, rather than that of trusting to theories founded on insufficient and unproved evidence. 'Don't think!—try' was his favorite exhortation. He it was who first gave allies to surgery, urging that surgery should be regarded as a branch of Natural Science, to be studied in its appropriate relationship to all other branches, thus bringing it into close relation with chemistry, physics, biology, comparative anatomy, physiology and pathology. Had the microscope been available in Hunter's day he would doubtless have added to these bacteriology."

A goodly portion of the address deals with the service rendered to surgery by the X-rays, radium and the actinic rays, or the contributions of physics.** Then he goes on to recount the debt of surgery to physiology and to bacteriology. Great advances have been made during the past two decades in the physiology of nutrition. Vitamins, insulin and the isolation of the active principles of the ductless glands

* Debt of Modern Surgery to the Ancillary Sciences, delivered at the Annual Meeting of the British Medical Association at Manchester, July 23rd, 1929, by A. H. Burgess, M. B., M. Sc., President of the Association.

**The substance of this portion of the address has already appeared in the *Journal M. S. M. S.*, Vol. 28, May, 1929.

are the result of physiologic research during the same period. Many cases of diabetes were poor operative risks before the discovery of insulin. With it such persons may undergo surgical treatment where indicated with the minimum risk. Mention is also made of micro methods for the biochemical examination of the blood; of buffer mechanisms of the blood and the relation of capillary circulation to the production of shock. All these advances in physiological knowledge have exerted a beneficial influence on surgery as regards both diagnosis and treatment. Blood transfusion is regarded as one of the most useful of emergency therapeutic measures. At first, crude and empirical, through physiological research it is now on a sound physiological basis with its dangers practically eliminated by the method of differentiation known as "typing" or "grouping."

The speaker made a valuable suggestion for the future of physiology in the way of greater service to humanity. Much of the success of physiology up to the present time has been due to animal experimentation. Greater use might be made of the human. Clinical research in human physiology is one of the great needs of the day. Here a wide field is offered for the investigation of its problems in the ward and hospital operating rooms.

It is almost superfluous to mention the debt of surgery to bacteriology. This ancillary science ushered in the renaissance of surgery. The era of asepsis and antisepsis in surgery stands as an enduring monument to the memories of Lister and Pasteur. Modern victories are not won single-handed.

300 YEARS OF SPECTACLES

The inventor of spectacles is not known. Perhaps it was Roger Bacon; certainly someone about his time for they are presumed to have come into use three centuries ago. The unknown benefactor probably kept his identity concealed through fear of being burned at the stake as a wizard. It is hard for us at the present day to conceive of a spectacle-less world. Astigmatism, myopia, hyperopia and presbyopia are conditions as old as the race. In times of almost universal illiteracy aids to vision were not important. It is evident, however, that the learned men of all ages had to depend upon their unaided eyes, or to turn for help to the eyes of the younger men who could read aloud.

It is recalled that Pepys' famous diary

was cut short owing to the failure of the author's vision. Pepys first complained about his sight in 1664. He writes: "I do truly find that I have overwrought my eyes, so that now they are becoming weak and apt to become tired, and all excess of light makes them sore, so that now to the candle-light I am forced to sit by," adding; "The snow upon the ground all day, my eyes are very bad, and will be worse if not helped, so my Lord Bruncker did advise me to use greene spectacles, which I will do." He found the green spectacles unsatisfactory and three years later he went to Turlington, the great spectacle-maker for advice. "He dissuaded me from using old spectacles but rather young ones, and told me that nothing could wrong my eyes more than to use reading glasses which do magnify much." The result was no better. He then tried a tube of paper for his right eye, but finally gave up saying: "And thus ends all that I doubt I shall ever be able to do with my own eyes in the keeping of my journal. I am not able to do it any longer, for I have done it now so long as to undo my eyes almost every time that I take a pen in my hand."

The consensus of opinion among oculists is that the defect in Pepys' vision was comparatively simple and one which the modern refractionist could have easily corrected. It will never be known how much genuine literature the world has lost owing to the fact that the discovery of spectacles had not been made sooner.

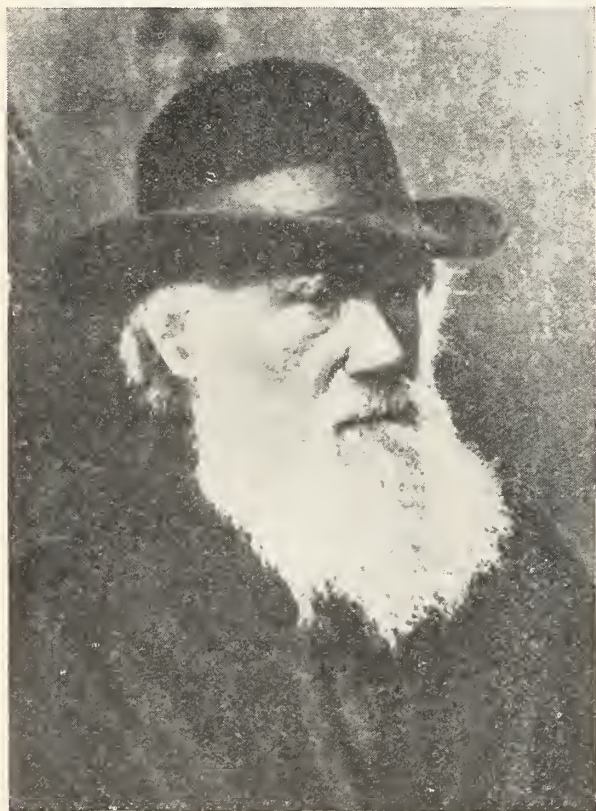
According to the lay press the X-rays are being used to detect the presence of diamonds that may be concealed about or within the person of workers or others suspected of smuggling them. This, however, is impossible in-as-much as diamonds are radio-lucent; of low atomic weight, they are practically invisible to X-ray examination. (This knowledge was not obtained by examining our own diamonds). The X-rays might be used to detect the true from the spurious gem in-as-much as all other sparklers are of greater density and therefore more or less radiopaque.

Congratulations are extended to our esteemed Secretary and Business Manager of the Michigan State Medical Society on his re-election for the eighth time as Speaker of the House of Delegates of the American Medical Association. Dr. Warnshuis' knowledge of parliamentary procedure and his ability to apply that knowledge at the psychological moment has rendered him a valuable presiding officer.

THE EDITOR'S EASY CHAIR

PILGRIMAGE TO DARWIN'S HOME

Charles Darwin, the naturalist and father of modern biology, has been an interesting personage to the writer. My earliest contact was a perusal of the *Descent of Man* during my 'teens. I recall how vivid and convincing at that time were the arguments of the great evolutionist. Late in July last I made a pilgrimage to the home at Down where Darwin worked for 40 years and died in 1882, to quote the bronze tablet at the



CHARLES DARWIN

entrance to the house and grounds. Darwin's old home is not more than 16 miles south of London in the northwest corner of the County of Kent. Yet one must drive approximately twice that distance before he reaches the place. The last five or six miles are along winding roads, so narrow that two automobiles can meet and pass only with the greatest difficulty. The highways are flanked on each side by luxuriant hedges and trees of unknown age; crossing a deep valley and a right turn we come upon the shrine of the father of modern biology. It stands alone; no other house is very near. The village of Down is about four miles distant, and the whole neighborhood is still as intensely rural and quiet as when Darwin lived there. It is an ideal spot for the scholar and thinker, and Darwin was both. I was given permission to photograph the place at will, but the absence of proper light forbade indoor photography.

The interior I shall attempt to describe. One enters a hall and signs the Visitors' book. (We

like to leave our names in public places). To the right of the entrance hall is the new study which Darwin built. The furnishings of this room consist of his old wardrobe and a number of pictures of Huxley and of himself at different ages.

We pass on to the "Old Study", which is furnished pretty much as it was when Darwin "thought and worked" in it. His bookcases are empty except for some pistols and dissecting in-



The Darwin Home at Down, England—Rear View
—Photo by J. H. Dempster.

struments which he took with him on the famous voyage of the *Beagle*, which he undertook at the age of twenty-nine, necessitating his absence from home for a period of five years. The room contains also a revolving table at which the author might sit and bring any portion of the table to him by a simple turn. Among the other furnishings of his study is his old chair with a board across the arms. This was the desk on which he did most of his writing. It was in this room that "The Origin of the Species", the book that marked the beginning of modern biology, was written. It is the most interesting room in the house. It is the object of those in charge to furnish it as



Darwin's Old Home—Front Entrance.
—Photo by J. H. Dempster.

nearly as possible as when Darwin lived in it. This is being slowly accomplished; it will probably never again house his library, which was bequeathed to his old Alma Mater, the University of Cambridge.

Darwin was born 12th February, 1809, a year noted for the birth of great men. It was the year of Lincoln's birth, and also that of the poet, Tennyson. Down House was purchased for Darwin by his father; he moved into it September 14th, 1842, and lived there continuously until his death. Here all but two of his family were born and reared. Here he made his first draft of "The Origin of the Species" (1842) and continued his researches until the publication of this noted work in 1859.

At the rear of Darwin's house is a spacious lawn with huge trees massed on each side. Around



Darwin's Experimental Garden and Green House.
—Photo by J. H. Dempster.

the lawn, which is four or five acres in extent, is a gravel walk, which the author called his "Thinking Path". There is no place where there are fewer distractions, no other human habitation in sight, an ideally secluded spot for a writer. To the right of this lawn is a large garden and greenhouse, now a vegetable garden, but used by Darwin for the cultivation of experimental plants.

Through the munificence of one of England's noted physicians, Dr. George Buckston Browne, this old home of the great naturalist is now a museum of Darwiniana; it is under the guardianship of the British Association for the Advancement of Science. The gift carries with it an endowment sufficient to maintain it in perpetuity. The life and work of Darwin has a special appeal to members of the medical profession; medicine is, after all, but a specialized department of biology, viz. a study of the human animal. It is worthy of note also that the great advances in medical science have been largely coincident with the growth of biology as a pure science. These facts should impress upon the physician and surgeon the importance of a visit to Darwin's old home, when as near as London. From this spot Darwin shook the world and gave human thought an impress which will endure for all time.

A MISJUDGED CASE

WILLIAM COWPER

Between nose and eyes a strange contest arose,
The spectacles set them unhappily wrong;
The point in dispute was, as all the world knows,
To which the said spectacles ought to belong.

So Tongue was the lawyer, and argued the cause,

With a great deal of skill and a wig full of learning;

While chief baron Ear sat to balance the laws,
So famed for his talent in nicely discerning.

In behalf of the Nose, it will quickly appear,
And your lordship, he said, will undoubtedly find,

That the Nose has had spectacles always in wear,
Which amounts to possession time out of mind.

Then holding the spectacles up to the court,—
Your lordship observes they are made with a straddle,

As wide as the ridge of the nose is; in short
Designed to sit close to it: just like a saddle.

Again, would your lordship a moment suppose,
('Tis a case that has happened, and may be again),

That the visage or countenance had not a Nose!
Pray who would, or who could wear spectacles then?

On the whole, it appears—and my argument shows,

With a reasoning the Court will never condemn,
That the spectacles plainly were made for the Nose,
And the Nose was as plainly intended for them.

Then, shifting his side, (as a Lawyer knows how),
He pleaded again on behalf of the Eyes;
But what were his arguments few people know,
For the court did not think they were equally wise.

So his Lordship decreed with a grave solemn tone,
Decisive and clear, without one if or but—
That whenever the Nose put his spectacles on,
By daylight or candle-light—Eyes should be shut!

NOTE—This poem was written in 1780. It is here printed as a "tonic" or "sedative" as you like in honor of the 300th anniversary of the adoption of spectacles as an aid to vision.

DEATHS

Dr. George S. Caron

Dr. George S. Caron died Friday, August 16, 1929, at Grace Hospital at the age of 71. Dr. Caron had been a physician in Detroit for the past 38 years, of which time he spent 30 years as a member of Grace Hospital staff. He is survived by his widow and by one daughter, Mrs. Paul E. Davis, Jr.

Dr. R. E. Cooper

Dr. R. E. Cooper was killed July 27, 1929, in an automobile accident near Plymouth. Dr. Cooper was a graduate of Victoria University, Coburg, Ontario, and had practiced for over 30 years in Plymouth. He is survived by his wife and one son.

Dr. Philip P. Drouillard

Dr. Philip P. Drouillard of Detroit died September 7th after a brief illness. He was twenty-nine years old, having graduated from the Detroit College of Medicine and Surgery two years ago. His internship was served at Providence Hospital. He is survived by his mother and four sisters.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The minutes of our annual session will be reported in detail in the November number.

The 1930 session of the A. M. A. will be held in Detroit the week of June 22nd.

Dr. A. P. Biddle, Detroit, received the honorary degree of Doctor of Science from the college of the City of Detroit at the annual convocation in June.

Members are urged to read the Secretary Department notices and announcement of Post-graduate conferences in several parts of the state during the month of October. These conferences are for our members. Attendance is urged.

A group of scientists in attendance on a course in cardionephritis at the Physicians Hospital, Plattsburg, New York, assisted at the dedication of a bronze tablet in honor of Dr. William Beaumont. The tablet is the gift of the New York Department of Education. The memorial marks the site where Dr. Beaumont began medical practice in 1815.—New England Medical Journal.

During the Annual Meeting of the Michigan State Medical Society at Mackinaw Island three years ago a bronze tablet was placed on the monument that marks the site where Beaumont made some of his epochal discoveries in gastric digestion. The stone monument was erected by the Michigan State Medical Society over a quarter of a century ago.

A gift of \$150,000 from the J. B. Ford estate has been announced recently for the construction of another floor to the Wyandotte General hospital. The gift depends upon the raising of \$100,000 by the city for the erection of a nurses' home. A drive is to be instituted to obtain the necessary sum. With the addition of another floor and the erection of the contemplated nurses home, the capacity of the hospital will be doubled from 50 to 100. The additions will provide for enlargement of the children's department, the maternity ward, and greater facilities in the "out patient" department.

The Beaumont Lectures, Eighth Series, published for the Wayne County Medical Society, will be ready about September 21. Dr. A. N. Richards of the University of Pennsylvania is the author and his subject is "Methods and Results of Direct Investigation of the Function of the Kidney." The discussions: the nature of glomerular function; reabsorptive functions of the renal tubule; evidence of secretion by the renal tubule.

NOTE—The Williams & Wilkins company, Baltimore, Md., are the publishers and copies may be had by addressing them, price \$1.00.

The American College of Surgeons will hold its nineteenth annual Clinical Congress in Chicago, October 14-18. Headquarters will be at the Stevens Hotel. There will be a series of clinical demonstrations given by: George W. Crile, Cleve-

land; John B. Deaver, Philadelphia; John M. T. Finney, Baltimore; Charles H. Mayo, Rochester, and others. Monday evening's program will include an address of welcome by the Chairman of the Chicago Committee on Arrangements, Dr. Herman L. Kretschmer, the address of the retiring President, Dr. Franklin H. Martin, Chicago, the inaugural address of the new President, Major-General Merritte W. Ireland, Washington, D. C., and the John B. Murphy Oration in Surgery by Professor D. P. Wilkie at Edinburgh. Among the foreign visitors will be: Dr. James Heyman of Stockholm, Dr. Thierry de Martel of Paris, Visconte Aguilar of Madrid, and Mr. Herbert Tilley of London. Tuesday, Wednesday and Thursday evening sessions will consist of scientific papers presented by surgeons from the United States, Canada and from abroad. The Annual Convocation of the College will be held on Friday evening. The Fellowship address will be delivered by Dr. Glenn Frank, President of the University of Wisconsin.

DETROIT BRANCH OF THE AMERICAN UROLOGICAL SOCIETY MEETINGS 1929-1930

October 31, 1929:—

9 to 12 a. m., Receiving Hospital,

Urological Staff

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program.

Papers, case reports or specimens.

Presented by Doctors Cumming, Chairman; Davis, Dodds, Flaherty.

November 28th, 1929:—

9 to 12 a. m., St. Mary's Hospital,

Dr. Kersten and Staff

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program.

Papers, case reports or specimens.

Presented by Doctors Grajewski, Chairman; Holes, Hull, Keane.

January 9th, 1930:—

9 to 12 a. m., Harper Hospital,

Dr. Cole and Staff

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program.

Papers, case reports or specimens.

Presented by Doctors Kersten, Chairman; Korby, Loree, Leckie, Seabury.

February 13th, 1930:—

9 to 12 a. m., Providence Hospital,

Dr. Keane and Staff

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program.

Papers, case reports or specimens.

Presented by Doctors MacArthur, Chairman; Martin, W. F.; McClinton, Martin, W. C.

March 13th, 1930:—

9 to 12 a. m., Ford Hospital,

Dr. Ormond and Staff

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program and Annual Meeting.

Presented by Doctors Plaggemeyer, Chairman; Rexford, Runo, Morris.

April 10th, 1930:—

9 to 12 a. m., Receiving Hospital,

Urological Hospital.

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program.

(Out of town speaker).

May 8th, 1930:—

2 to 5 p. m., University Hospital, Ann Arbor.,

Dr. Cabot and Staff

Operative and Dry Clinic, or
Urological Pathological Conference.

6:30 p. m.—Dinner W. C. M. S.

7:30 p. m.—Scientific program.

Presented by Doctors Slaugenhaupt, Chairman; Sewel, Smith, Thompson, Ormond, Magoun.

INTERSTATE POST-GRADUATE MEDICAL ASSOCIATION

The international medical assembly of the Interstate Post-graduate Medical Association of North America will be held in Detroit, October 21 to 25. The meetings will be held in the Masonic Temple auditorium. The Interstate Post-graduate Medical Association is devoted exclusively to post-graduate medical education. This is an event of more than usual importance to Michigan physicians. It is the aim of the organization, in its annual international assemblies, to present to the medical profession the approved advancement in medical science and research, not unmindful of the practical side of medical study. To this end the diagnostic clinics, addresses, symposia, and scientific demonstrations are offered. There are nearly one hundred numbers on the program and many of the most noted names in modern medicine are represented. An inspection of the program shows that the standard of past years has not been lowered; the number of famous men from both sides of the Atlantic is surprisingly large, larger than one would expect to find on the program of any single meeting. Such names as Rowntree, Kavel, Baer, Joselin, Frazier, Mayo, Bloodgood, Cushing, Deaver, Finney, Erdmann, Christian, Lewis, DeLee, Polak, and many others are found on the program. Such a representation is ample proof that the scientific sessions will be a delight to all who attend.

In addition to the scientific program there will be an extensive technical and scientific exhibit. This will be the largest and most comprehensive exhibit in the history of the association. Considerable space will be devoted to the showing of scientific (non commercial) exhibits, and many of the leading medical institutions will be represented. An invitation is extended to the medical profession of the state of Michigan to attend the sessions of the assembly.

COMMUNICATIONS

To the Editor:

In reply to your inquiry* in regard to our experience in England this summer, I might say that our trip was based entirely on the fact that we gave some clinics both in London and Manchester last year.

Mr. A. H. Burgess, the President of the British Medical Association, was responsible for the clinics that we gave in 1928 and since that time he has done practically all of his work under anesthesia. He, therefore, invited me to come to the British Medical Meeting this year and give a paper on the subject of Spinal Anesthesia.

A clinic was arranged for us at St. Peter's Hospital in London with Sir Thomas Walker operating and Sir Francis Shipway in charge of the anesthetizing, he being the chief anesthetist. You may recall that Sir Francis Shipway is the doctor who has given the king the anesthesia for his recent operations. At the King's Cottage Hospital, Dr. Cecil Hughes had charge of the arrangements, he being the chief anesthetist at this hospital. Sir John Thompson Walker was the operating surgeon here.

Sir James Gordon Watson was the operating surgeon at St. Bart's Hospital where Dr. Pitkin gave some clinics. As you know, Dr. Pitkin accompanied us to England and gave the address to the British Medical Meeting jointly with me. Dr. Pitkin and I also gave clinics on Spinal Anesthesia at the Royal Infirmary at Manchester, where continuous clinics were given throughout the morning in five operating theaters, Dr. Pitkin and I administering all of the anesthetics. These clinics were very well attended and very highly successful.

It will, I am sure, interest you to know that Dr. W. A. Hudson of this city also accompanied us to the British Medical meeting and there presented for the first time the Cinex-Camera which was developed by Dr. Hans Jarre of Grace Hospital. Dr. Hudson's demonstration was given before the section of Radiology and was so successful that they asked him to present it before the Medical section. A great deal of enthusiasm was shown by the members of the association.

FRANK A. KELLY.

* This communication written at our request details the activities of several of our members who went abroad during the summer.—Editor.

September 9, 1929.

Extension Division, University, Virginia.

Dr. F. C. Warnshuis,

Grand Rapids, Michigan.

Dear Dr. Warnshuis:—

Let me thank you for your very kind replies to my recent questions.

I still feel after further study on this question of post-graduate medical instruction that you are developing or have developed one of the most effective systems for reaching the general practitioners that is to be found.

I shall watch with a great deal of interest your efforts to establish the all-year post-graduate school. Such would be a fitting climax to your post-graduate activities.

George B. Zehmer, Director.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.
Secretary Michigan State Medical Society

POST-GRADUATE CONFERENCE

TUBERCULOSIS CLINIC

Howell Sanitarium—Tuesday, October 8, 1929

10:00 A. M.—5:00 P. M.

HOWELL, MICHIGAN

PROGRAM

10:00 a. m.—The routine of admission to the Sanitarium and care of patients, together with demonstration of cases.

Doctors Huntley, Fausset, Gilmore and Hoffman.

12:00 m. —Luncheon.

1:00 p. m.—Clinic and round table discussion.

Dr. Stuart Pritchard, Battle Creek.

2:00 p. m.—Indications for and demonstration of artificial pneumothorax, with exhibition of patients.

Dr. Huntley and Staff.

3:00 p. m.—Indications for the use of lipiodol, together with demonstrations of technic.

Surgery of the chest with demonstration of cases.

Dr. John Alexander, Ann Arbor.

In responding to requests from many members of our Society for an opportunity for the clinical study of tuberculosis, the Committee on Post-Graduate Education believes that this is an excellent opportunity for our doctors to become better acquainted with the Howell Sanitarium, as well as affording outstanding opportunities for clinical instruction.

This will be a very profitable day. Not only will there be a discussion of the general problems of tuberculosis but opportunity will be afforded to see and examine large numbers of the various types of cases.

REMEMBER THE DATE—OCTOBER 8, 1929.

THE JACKSON SESSION

Our 109th Annual Session, held in Jackson on September 17th-19th, is now a matter of record enshrined midst the evidenced hospitality of our Jackson members. Jackson excelled as a host. Our stay was most enjoyable and our thanks are sincerely tendered to the members of the Jackson County Society.

The registration was 678. From expressions heard and received, those in attendance participated to their personal benefit and pleasure.

The November Journal will contain the official minutes and the details of the transactions. It was an impossibility to incorporate them in this issue.

OUR PRESIDENT'S SALUTATION

The present day tendency of our membership to affiliate with and attend special medical organizations is steadily growing. This tends to lessen the interest and attendance in our county, state and national societies. I do not decry the existence of these special societies, in fact perhaps they fulfill a need. Yet what reason is there that all that which is obtained or given at these meetings could not be had at our state and national gatherings?

Every essayist desires a good audience. A free and full discussion of the subject is not only pleasing to the author but is instructive. I fully realize that some of the more technical subjects are of little value to the average doctor, nevertheless a great many are at least interesting. Few papers on special subjects are presented which have no bearing on more than one portion of the complicated body mechanisms and therefore should be of interest to a large majority of our membership.

I believe that much of what is said and written is not presented at our State Society Meeting. It may be said that time and space and the proper sections are not available at our State Meeting for all who may wish to be heard. If such should become the case it then becomes the duty of the Council to provide more and adequate facilities, and enlarge The Journal if necessary.

My plea for the presentation of the material, which now goes to special societies, and should be given to our State Society is based on the fact that we as its members owe our first and greatest allegiance to our basic organization because it gives us its Journal, it fights our legislation battles, it protects us against the disgruntled patient

and stands ready always to help us in any manner within its power. An organization whose membership is keenly interested in its welfare becomes a power for the furtherance of individual interests. Let us all pull together, remembering our mutual welfare, and thus help to make the Michigan State Medical Society the best in the American Medical Association.

Another organization to which we are obligated is our State Department of Health. Under the efficient and devoted leadership of our esteemed Dr. Kiefer it has taken rank among the foremost health departments in our country. It supplies us with information upon any health topic we may desire, furnishes free diphtheria antitoxin and toxin antitoxin, etc., supplies us with diagnostic laboratory service second to none, and will aid us in any way, if requested, to combat communicable diseases. In fact, it stands as a great protector between communicable diseases and the public. Since its policy is to use the doctor to protect the public, particularly the children, from the ravages of contagion every member of our society owes our State Department of Health 100% co-operation.

And now a word of appreciation and thanks for the honor conferred upon me at the Jackson meeting.

I have always been interested and found pleasure in partaking in the activities of our Society. It has been a source of recreation and diversion from the every day grind. From a humble beginning on the back seat some twenty-three years ago you have elevated me to the most honored position within your gift. As delegate from my county society for twenty-three consecutive years, as Speaker of the house of delegates one year, and as delegate to our national association for a number of years, I ask, what other honor could any man expect? Yet you have done more. Why I do not know. All I can say is that I feel sincerely grateful, not only to those who were particularly active in my behalf, but to the entire profession of the state for this, which I consider, an unmerited honor.

MINUTES OF THE ANNUAL MEETING OF THE COUNCIL

First Session

The first session of the Council of the Michigan State Medical Society was called to order by Chairman Stone at the Hayes Hotel, Jackson, Michigan, at 6:30 p. m. on Monday, September 16, 1929.

Present: R. C. Stone, B. R. Corbus,

Paul R. Urmston, Richard Burke, B. H. Van Leuven, Julius Powers, J. D. Bruce, T. F. Heavenrich, Henry Cook, B. F. Green, O. L. Ricker, J. H. Charters, President Hirschman, Secretary Warnshuis, members of the Legislative Commission and Ex-President C. B. Burr.

1. The Legislative Commission's Annual Report to the House of Delegates was presented to the Council and was discussed by several members and certain alterations in phraseology were recommended, after which the report was approved for presentation to the House of Delegates by the Chairman of the Commission, Dr. Guy L. Kiefer.

2. The Annual Report of the Council to the House of Delegates, which had previously been sent to each member of the Council was discussed. On motion of Dr. Corbus five honorary members were recommended to the House of Delegates for election to honorary membership. Upon motion of Doctors Heavenrich-Charters, the Annual Report was approved and the Chairman directed to present the same to the House of Delegates at its first session.

3. Dr. C. B. Burr, Chairman of the Committee on Medical History of the Society and the Profession of Michigan, presented a detailed report of the labors of his committee. It was reported that there was sufficient material on hand to complete two volumes of the history. Upon motion of Doctors Urmston-Bruce it was recommended that a Publication Committee, composed of Doctors Burr, Dempster and Warnshuis, be appointed and authorized to secure bids for publication and cost of distribution and to submit their report to the Executive Committee for further action and inspection.

4. The Council then resolved itself into Executive session and adjourned at 11:00 p. m.

Second Session

The second session of the Council was called to order at 12:00 o'clock September 17, at the Hayes Hotel, with all the members of the Council of the previous session present.

1. The Secretary reported upon the activities of the House of Delegates and referred particularly to the request that the Council supply the House of Delegates with information relative to what action was being taken to curtail the admission of pay patients to the University Hospital. After discussion of the question it was duly moved that Dr. Bruce be designated

as spokesman of the Council and present the possessed facts at the next session of the House of Delegates.

2. The program of Post-Graduate Conferences for the remainder of the year were discussed with particular reference to the Post-Graduate Conferences in the Upper Peninsula. Upon motion of Doctors Corbus-Bruce, the Secretary and the Post - Graduate Conference Committee were instructed to arrange for two conferences in the Upper Peninsula during the last week in October.

3. President Hirschman presented to the Council details of his conference with the Commission of the Couzens fund, which report was accepted and the Post-Graduate Committee was authorized to enter into further negotiations regarding Pediatric Clinics in the state.

The Council resolved into executive session, at the close of which Doctors Corbus and Heavenrich were appointed to interview the Secretary. Upon their return it was moved by Dr. Corbus, supported by Dr. Heavenrich that the salary of the Secretary be placed at \$6,500 a year to begin September 1, 1929.

Upon motion of Doctors Bruce-Cook, it was moved that the salary of the Editor be increased to \$3,500 per year to begin September 1, 1929.

The Council adjourned.

Third Session

The Third Session of the Council was called to order at 8:00 a. m. by Chairman Stone, at the Hotel Hayes on September 18, 1929. All the members of the Council attending the previous session were present.

1. Upon motion of Doctors Bruce and Urmston it was decided to hold the next Annual Secretaries Conference and the Mid-Winter session of the Council at the headquarters of the American Medical Association in Chicago during January, 1930. The exact date and the details of these sessions to be arranged by the Executive Committee of the Council.

2. Upon motion of Doctors Heavenrich-Charters it was moved to increase the number of the Executive Committee by one, to be appointed by the Chairman of the Council.

3. It was moved by Doctors Bruce-Heavenrich that the Secretary and one member of the Council be delegated to go to Benton Harbor and St. Joseph and investigate the local facilities for holding an Annual Meeting of the Society and to re-

port their findings at the Mid-Winter session of the Council.

4. Upon motion of Doctors Charters-Cook, Dr. R. C. Stone was nominated and elected by unanimous vote as Chairman of the Council for the ensuing year.

5. Upon motion of Doctors Bruce-Heavenrich, Dr. B. R. Corbus was nominated and by unanimous vote was elected Vice-Chairman of the Council.

The meeting adjourned.

R. C. Stone, Chairman,
F. C. Warnshuis, Secretary.

COUNCIL COMMITTEES

The standing Committees of the Council for this year will be:

Publication Committee—J. D. Bruce, Ann Arbor; Julius Powers, Saginaw; B. H. Van Leuven, Petoskey.

Finance Committee—Geo. L. Le Fevre, Muskegon; J. H. Charters, Detroit; T. F. Heavenrich, Port Huron.

County Society Committee—B. R. Corbus, Grand Rapids; C. E. Boys, Kalamazoo; P. R. Urmston, Bay City.

I will appoint Dr. Henry Cook of Flint, as the additional member of the Executive Committee, as provided for in the resolution adopted by the Council at Jackson.

Will you kindly notify these men of their appointments.

Thanking you, I am,

Yours very truly,
R. C. STONE.

SCIENTIFIC EXHIBIT

As an innovation and an additional educational feature of our Annual Session a scientific exhibit was planned and displayed. For the success of the exhibit all credit must be given to Dr. Wm. A. German who assumed and ably discharged the duties of directorship.

Dr. German's report is here appended:

September 20, 1929.

Dear Dr. Warnshuis:

I shall attempt to outline below a list of the exhibitors in the scientific exhibit and the material which they presented.

The Henry Ford Hospital, Detroit, Michigan—Doctors Hartman, Smith and Doub presented, with case histories, a series of specimens of ulcerative cholangitis by Borge's diplococcus and a series of specimens of carcinoma of gall bladder, both squamous cell type and adeno carcinoma cell type. These were accompanied by excellent photomicrographs and an exhibit including a series of cases of coronary occlusion and infarctions and a very interesting piece of research work on experimental heart lesions, particularly of the conduction system, produced by therapeutic X-ray and illus-

treated by mountings of electrocardiograph tracings and colored photomicrographs. A very complete series of primary and secondary chest tumor radiographs and a series of gastro-intestinal cases completed their exhibit.

The City of Detroit Receiving Hospital—Doctors O. A. Brines, J. C. Kenning and Lloyd Rogers displayed a series of very interesting X-ray films, photographs, photomicrographs, drawings and colored portraits of patients and specimens illustrating primary carcinoma of liver, teratomata of testis, and many other interesting and unusual pathological conditions.

The Grace Hospital of Detroit—Doctors Stevens, Jarre and Hasley exhibited a very interesting series of Cinex Camera Studies by X-ray, illustrating the movement of the chest, bronchial tree, gastro-intestinal tract and bones in normal and pathological conditions. Of special importance is this method of X-ray study in that it shows the variations in size and width of the thymic shadow under the influence of the movements of respiration.

Dr. Don Duffie of Central Lake, arranged a very unique demonstration of the New Folin Micro Method for the determination of blood sugars. This method, carried out by a small portable outfit, easily and quickly done, should be of interest to those treating diabetes, who are not within reach of hospitals or laboratories.

The Battle Creek Sanitarium Research Department—Doctors Paul Roth, Nielson, Lewis and Bond presented a graphic display of an exhaustive study of spirography, carbohydrate metabolism, and liver and gastric function.

The Bureau of Laboratories of the Michigan Department of Health showed models in miniature of their biological station and the products which they make.

Dr. Cowie of the Pediatrics Department of the University Hospital, presented a beautiful demonstration as shown by X-ray studies of the production of rickets in rats and the rapid cure of this condition by irradiated Ergosterol.

Doctors Moore and Barnes of the Surgical Department and X-ray Department, respectively of the University Hospital, exhibited the surgical treatment of pulmonary tuberculosis and other chest conditions.

The American Medical Association, in a large booth on the main floor, displayed a series of educational posters and pamphlets.

The prizes were allotted as follows:

First award—Dr. Hartman, Detroit.

Second award—Dr. Stevens, Grace Hospital.

Second award—Dr. O. A. Brines, Pathological Department of Receiving Hospital.

Second award—Dr. Don Duffie, Central Lake.

Second award—Dr. Moore, X-ray Surgical Department of University of Michigan Hospital.

It is my intention to write to the various hospitals in the near future, expressing our appreciation for their co-operation and asking them to keep us in mind for next year's exhibit.

Very truly yours,

Wm. A. German,
Director of Scientific Exhibit.

YOUR LOCAL SOCIETY

County societies are resuming their meetings following a summer recess. In conformity with the recommendations of the Council, county units are urged to as-

sume an aggressive and well evidenced leadership and control of all medical and health activities in their county. The program for the year should outline the functioning of your local society. This is a responsibility reposed in local officers and the Program Committee.

With a view of helpfulness the following pertinent suggestions in the form of questions recently composed by the Minnesota State Medical Association, is here brought to the attention of county officers and program committees.

YOUR LOCAL SOCIETY

1. Do you discuss medical economic questions and relations to the public at your medical meetings?

2. What relations has your local society established with the newspapers in your community?

3. To what degree have your members addressed lay organizations on medical subjects?

4. What relations has your local society established with lay organizations?

5. What is the attitude of your society toward doctors participating in politics; for instance, as members of the legislature, the school board, welfare boards, et cetera?

6. What study has your society made on the question of State Medicine?

7. What principles of ethics has your organization decided upon?

8. Has your society made any study of contract and compensation practice?

9. In your local area, what percentage of the doctors are members of the State Association? What percentage of your members have a record for satisfactory professional conduct and ability?

Remember that the state membership is based entirely upon the membership of the county society.

10. What help is your local society rendering in the control of illegal practice?

11. Has your organization sought to properly influence the administration of free clinics and welfare work?

12. What is the outstanding action that your society has taken to solve these questions?

13. Will you help by answering, criticizing, and making additions to the above questions?

These questions merit serious consideration and answer by all of our County Societies.

AUTOMOBILE LIABILITY

Every physician and every hospital renders services totaling many thousands of dollars each year to persons injured in automobile accidents. The experience is general that these services are not paid for because the driver of the car is without funds and is unable to compensate for the damages he has done. With the tremendous increase in the number of automobiles and an ever lengthening list of daily automobile accidents the situation is serious, involving hospitals, doctors, pedestrians and auto owners. The demand is acutely pressing that some relief be afforded.

A suggested plan whereby every car owner and driver would be compelled to establish his financial responsibility or present evidence of being protected by an insurance policy is vigorously obstructed and objected to by the automobile manufacturers and dealers. They claim it would diminish the sale of automobiles. Their objection is a purely selfish one in which they ignore the pressing need of safeguarding the lives of people and the property of others. Whether their policy is a wise one will not be argued here. The conviction is firm that relief must be established. The need also exists that a state wide demand be made for legislation that will reduce the losses occasioned by automobile accidents.

On September first, a recently enacted New York law took effect. This law provides that: "In case of damage to another's person or property the car owner responsible must make good within 15 days after judgment is rendered, otherwise his license and registration will be suspended. Your car cannot be driven by anyone. Your license will not be restored until you give proof of financial responsibility."

This appears to be a very definite solution. It merits emulation in every state. Steps should be taken to secure such a law for Michigan. The Michigan Hospital Association might well sponsor such a campaign and secure the assistance of safety organizations to bring about such a law in this state.

WARNING

Dr. Frederick C. Warnshuis, Secretary,
Michigan State Medical Society,
Grand Rapids, Michigan.
Dear Sir:

The medical fraternities of this state are being circularized by the Imperial Accident Assurance Company of Chicago, Illinois, offering them medical directorships in the company with brilliant financial returns, for the payment of a \$10.00 fee.

The circular received by me was referred to the Commissioner of Insurance for the State of Michigan, who sent the attached letter in reply.

Very truly yours,
W. H. Browne,
Medical Director.

State of Michigan—Department of Insurance
Lansing

Dr. Wm. H. Browne, Medical Director,
Michigan Life Insurance Company,
2988 E. Grand Boulevard,
Detroit, Michigan.
Dear Doctor:

This is to acknowledge receipt of your communication of the 12th instant, together with circulars sent to you by the Imperial Accident Assurance Company of Chicago, Illinois.

Your inquiry was just one of many which the department has received from the medical men of the state regarding the same question. It is

apparent that the doctors of the state have been circularized by the institution so that you gentlemen might aid in sponsoring the organization of an Illinois concern. So far as I can see, all it wants is \$10 from you and other doctors located within Michigan, which money would be just a contribution to the funds of the company so as to permit it to comply with the minimum asset requirement of the Illinois law, the return of same being out of the surplus earnings of the company, if any. It is ridiculous for the company to offer such a charming amount for services which amount is to be predicated upon 5 per cent of the premiums collected in the congressional district where the doctor is located. As a matter of fact, there will be no premiums from a congressional district in Michigan, as the company will not be authorized to transact its business within this state. It might, however, be able to induce some residents of this state to insure with it through the mails. However, if such is done and a doctor was appointed to the staff, the doctor would be representing a company not regularly authorized and the doctor would thereby place himself in the position of representing an unauthorized insurance company, which would be contrary to the existing statutes.

I most heartily recommend that you refuse to fall for their flattering offers and I know, Doctor, that you will recommend to your associates in Detroit, to stay clear of this company's scheme. In order that the department might apprise professional men of the state, we have given the press an article in regard to this matter. It might be well for you to have your medical society warn its members against entering into this plan.

Very truly yours,

(Signed) R. M. Wade,

Second Deputy Commissioner.

M. S. M. S. POST-GRADUATE CONFERENCE—BENTON HARBOR— HOTEL VINCENT— OCTOBER 16, 1929

PROGRAM

- 1:30 p. m.—“Neurological Examinations.”
Carl D. Camp, M. D., Ann Arbor.
- 2:00 p. m.—“Hypertension.”
Nathan S. Davis, III, M. D., Chicago.
- 2:30 p. m.—“Differentiation in Acute Abdominal Conditions.”
Frederick A. Collier, M. D., Ann Arbor.
- 3:00 p. m.—“The Neuralgias.”
Carl D. Camp, M. D., Ann Arbor.
- 3:30 p. m.—“The Decompensated Heart.”
Nathan S. Davis, III, M. D., Chicago.
- 4:00 p. m.—“Mammary Surgery.”
Frederick A. Collier, M. D., Ann Arbor.
- 4:30 p. m.—“Treatment of Pneumonia.”
Nathan S. Davis, III, M. D., Chicago.
- 6:15 p. m.—Dinner.
- 7:45 p. m.—“Fads and Foibles.”

A. J. Cramp, M. D., Secretary Chicago
American Medical Association, Bureau
of Investigations.

LIVINGSTON COUNTY

The September meeting of the Livingston County Medical Society was held at old English Inn at Brighton on Tuesday, September 10. Following dinner discussion of the District Meeting to be held at the State Sanatorium in October took place. President Huntley was empowered to appoint necessary committee on arrangements. Election of officers resulted in motion for continuation of present officers for the coming year.

Dr. N. W. Larkum of the State Department of Bacteriology was present and gave a very instruc-

tive and interesting talk relative to his work with the “Bacteriophage.”

The October meeting will be in the form of an all day clinic to be held at the Sanatorium. The clinic will be a joint meeting of the four counties in the district and will entail a very elaborate program of noted clinicians. Program will be found elsewhere in The Journal.

The November program will be in charge of Dr. H. G. Huntington of Howell.

L. A. Davis, Secretary.

LENAWEE COUNTY

The September meeting of the Lenawee County Medical Society was held at Dobbin's Tea Room in Adrian on the evening of Tuesday, September third. Coming as it did on one of the hottest days of the year, the attendance was somewhat less than the average. Twelve members sat down to an excellent chicken dinner. We had as a guest Dr. Harold Heffron of Metamora, Ohio.

After the dinner, Dr. B. Raymond Hoobler of Detroit gave us one of the treats of the year in a discussion of “Infant Feeding Under One Year of Age.” Quite often after one has heard a very instructive talk, he is inclined to say “that is the best one yet.” This one can be correctly so characterized. Special stress was laid by the speaker on the fallacy of attempting to feed a child a quart of milk a day to the exclusion of other foods that are necessary for his well-being. Also the importance of the various vitamins was emphasized, especially Vitamin B for the stimulation of the appetite.

The doctor told us when to commence feeding vegetables and how to prepare them, i. e. orange juice at the end of the first month, cooked vegetables between the fourth and the fifth month, milk to be gradually increased to the fifth month when the child should be getting a pint of milk daily. The milk should be stationary from then on and the ration be increased in the vegetable content. He praised very highly the effect of radiated ergosterol given in cod liver oil.

The next meeting will be held at the same place with a program continuing the study of pediatrics on the subject, “Respiratory Diseases of Infancy and Childhood.”

C. H. Westgate, Secretary.

GRAND TRAVERSE-LEELANAU CO.

The regular meeting of the Grand Traverse-Leelanau County Medical Society was held at the J. D. Munson Hospital on September 10, 1929. The afternoon was devoted to a pediatric clinic under the direction of Dr. Isaac A. Abt of Chicago, who in his characteristic way laid particular stress upon diagnostic procedure.

At 6 p. m., dinner was served at the Country club, at which 16 members sat down.

In the absence of Dr. Inch, Dr. Way presided at the meeting which followed.

Moved, seconded and passed that Dr. Rinear and the secretary draw up a resolution relative to the death of Dr. James Decker Munson and forward it to his son-in-law, Harold Ward.

Dr. Isaac A. Abt then gave a two and one-half hour talk, answering questions which were previously submitted by the members, in which he covered the following conditions: diabetes in children, rickets, infantile diarrheas, hemophilia, underfed babies, and infantile eczema. This most excellent review of pediatrics was thoroughly enjoyed by all members present.

The application of Dr. Clifford F. Smith of the State Hospital staff was accepted and he declared a member.

E. F. Sladek, Secretary.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

VARICOSE VEINS WITH A SPECIAL REFERENCE TO THE INJECTION TREATMENT—H. O. McPheeters, M. D., F. A. C. S., Director of the Varicose Vein and Ulcer Clinic, Minneapolis General Hospital. Illustrated with half-tone and line engravings. 200 pp., 35 illustrations. Price \$3.50. Davis Company, Publishers, Philadelphia, Pa.

This book is a complete monograph on the subject, going into detail in the anatomy and embryology of varicose veins. After discussing etiology, diagnosis, and ulcer conditions, the author gives at length an account of the injection treatment in seven chapters. The little book will be found invaluable to those who have occasion to treat varicose veins and pathological conditions arising therefrom.

A BOOK FOR US DIABETICS AND OUR DOCTORS—Don H. Duffie, M. D. Published by the author. Price \$1.50. South Lancaster, Mass., U. S. A.

This is the third edition of this little book within two years, which fact shows it is finding a demand. The successful treatment of diabetes is possible only with the intelligent co-operation of the patient. This little book should be in the hands of every person afflicted with the disease as it enables him to work with his physician, not to dispense with him. The author writes in a humorous style peculiarly suitable to such a work. The book contains a letter of endorsement or Foreword by Dr. L. H. Newburgh, Professor of Medicine, University of Michigan.

STERILIZATION FOR HUMAN BETTERMENT—A Summary of 6,000 Operations in California, 1909-1929, by E. S. Gosney and Paul Papanoe, 202 pp., Macmillan Company, New York. Price \$2.00.

Realizing that the best argument for or against a social reform is a study of that particular social practice in actual operation, Gosney and Papanoe have reviewed the records of over 6,000 sterilized individuals. The present work presents a readable non-technical account of their study, with a discussion of the advisability, the methods and results of sterilization and the patients' reaction. A more or less extensive appendix summarizes the laws, medical aspects, and attitude of the church toward sterilization. This book should prove of value to those interested in social problems.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY—A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Medicine, Biology, Medical Biography, etc. By W. A. Newman Dorland, M. D., Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. Fifteenth Edition, Revised and Enlarged. Octavo of 1427 pages, 525 illustrations, 107 of them in colors. Flexible binding, plain \$7.00 net; thumb index \$7.50 net. W. B. Saunders Company, 1929, Philadelphia and London.

Practitioners and students will welcome the fifteenth edition of Dorland's Dictionary. The present edition of this standard work has been thoroughly revised and brought up to date under the direction of the editorial staff of the American Medical Association. New terms have been defined and new illustrations have been added. Although the book has been increased to over 1,400 pages, it is not unwieldy.

PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY—Charles B. Slade, M. D., formerly Chief of Clinic in General Medicine, University and Bellevue Hospital Medical School, New York. Fourth edition, thoroughly revised. 12 mo. of 196 pages with 43 illustrations. Cloth, \$2.00 net. W. B. Saunders Company, 1929, Philadelphia and London.

Primarily intended as a guide to the student, or as an easy reference for the busy physician, this work presents in a compact form the principles and methods of physical examination. The text deals predominantly with the normal individual and disease conditions are only secondarily considered. An appendix, however, the only appreciable addition to the previous editions, deals with the physical signs in the diagnosis of pulmonary tuberculosis.

THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume 9, number 4. (Mayo Clinic Number—August, 1929) 208 pages with 72 illustrations. Per Clinic year (February, 1929, to December, 1929). Paper \$12.00; Cloth, \$16.00. Philadelphia and London.

The Mayo Clinic number combines case reports of unusual conditions with excellent papers on such subjects as the physiology of cardiac resuscitation, the specific dynamic action of food, Paget's Disease of the nipple, and the blood supply of the sigmoid, rectosigmoid and colon. The majority of papers on technique and abdominal conditions concern the lower alimentary tract and other pelvic structures.

THE MEDICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month). Volume 13, number 1. (Boston Number—July, 1929). Octavo of 280 pages with 36 illustrations. Per Clinic year, July, 1929, to May, 1930. Paper, \$12.00; Cloth, \$16.00 net. W. B. Saunders Company, March, 1929, Philadelphia and London.

The Boston number is replete with such well known authors as Joslin, Minot, and John Lovett Morse. Joslin contributes a fairly long paper on diabetic coma, Morse writes at length on some of the causes of difficult, noisy, and rapid respiration in infancy; several case reports of rare conditions are included, and excellent papers are given on nephrosis, tuberculosis of abdominal lymph nodes, eclampsia, thrombo-angitis obliterans, and other conditions.

THE HISTORY OF HEMOSTASIS—Samuel Clark Harvey, M. D., 128 pp. 19 illustrations. Price, \$1.50. Paul Hoeber, Inc., New York.

When one realizes that practically all progress in surgical technic has depended on the control of pain, bleeding and infection, and that the eradication of pain and infection has been possible only within the past century, it must be assumed that the history of hemostasis is in large measure the history of early surgery. Dr. Harvey has traced with a skilful hand the development of the ideas and technic dealing with control of bleeding from the time of the Egyptians and Greeks to the present. The detailed history of the use of styptics, cautery tourniquets, ligatures and hemostatics, as well as illuminating citations from prominent surgeons of the past, make this book a source of pleasure to the reader of antiquarian interests.

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UNTOWARD RESULTS IN FRACTURES*

FREDERICK C. WARNSHUIS, M. D.

GRAND RAPIDS, MICHIGAN

In my practice, extending over twenty-seven years, the treatment of fractures and the securing of desirable end results has been a problem of intense personal concern. A recent review of the ever increasing volume of medical literature on the subject as well as repeated reviews of my own cases indicate that much remains to be attained before a satisfactory, uniform method of fracture treatment can be developed and generally adopted.

Untoward end results may be due to many underlying causative factors in which a large number of varied principles and errors of omission as well as of commission are concerned. Failures and untoward end results are mainly due to a lack of proper technic, the lack of necessary materials, improper preparation of patients and faulty after care. Theoretical knowledge is of little benefit in the absence of experience. Fundamental principles must govern. Careful examination and diagnosis, anatomic reduction, effective maintenance of reduction and early passive movement are fundamentals. Divergence from or neglect to apply these principles meticulously leads to untoward results. The results vary from zero to one hundred

percent in efficiency and are largely influenced by the skill and judgment of the attending surgeon, the type of fracture and the patient.

Previous to the institution of the modern principles of aseptic surgery, treatment of fractures was limited to manipulative reduction and splinting. The operative or open treatment of fractures gained favor in 1894 when Sir Arbuthnot Lane began his pioneer work. As his results and teachings became widespread a furor of operative, open treatment of fractures ensued. Within a few years surgeons were deluged with a host of mechanical appliances and methods. The eager, aggressive surgeons plunged reck-

* Read before the Section on Surgery, Michigan State Medical Society Annual Meeting, Jackson, September 17, 18 and 19, 1929.

lessly into this new field of surgical reduction of fractures. On the slightest provocation the skill and ability formerly possessed to reduce and maintain in reduction by manipulation, traction and the proper splinting were cast aside. Then came the aftermath — infections, non-unions, osteomyelitis and a train of untoward end results. Before the war there was far too much operative treatment and calamities followed. With the advent of the war, the experiences recorded in army hospitals and a critical study of fracture treatment, the treatment of fractures has returned to a more conservative basis with careful observance of fundamental principles.

CAUSES OF UNTOWARD RESULTS

It will be impossible, at this time, to do more than enumerate the untoward factors. I present here a tabulation of untoward factors in the order of their importance as judged by my experience:

1. Faulty diagnosis or failure of diagnosis due to careless or superficial examination.
2. Incomplete reduction.
3. Failure to maintain reduction.
4. Too many readjustments.
5. Inadequate fixation.
6. Wide separation of fragments.
7. Interposition of muscles or loose bone.
8. Interference of circulation.
9. Focal infections and constitutional disease.
10. Injury to periosteum.
11. Ill advised open reduction.
12. Infection of open wound.
13. Osteitis.
14. Osteomyelitis.
15. Osteo-arthritis.
16. Pseudo-arthritis.
17. Ankylosis of joint and nerve injury.
18. Failure to employ early passive massage and motion.

These factors cause non-union, vicious union, loss of bone, deformity and undue loss of function. They may and can be avoided by the skill, patience and care of the surgeon.

On what basis are these end results appraised? Ross¹ states that end results are based on time, anatomic position of fragments, condition of approximating joints, type of fracture and bones involved. Ross further observes that if the anatomic position is good relatively small loss of

function occurs, if all other things are equal. He concludes that results are dependent upon firm union; that the long axis is continuous with the upper fragment; that the anterior surface of the lower fragment remains in the same plane as the upper fragment and that the length of the limbs are nearly equal.

Moorehead,² however, advances a more satisfactory basis of appraisal: First, Function, for it is the aim of surgical treatment to restore function as near normal as possible; Second, Union, state and condition of the union, and Third, Appearance—the contour and appearance of the injured limb.

PREVENTION OF UNTOWARD RESULTS

Preventive measures will materially reduce the incidence of untoward results. The degree with which we observe and apply guiding principles will in direct ratio minimize our failures and errors.

Diagnosis: Accurate, complete diagnosis is of first importance. This is impossible without careful and complete X-Ray examinations in all cases of suspected or possible fractures, regardless of the degree of the injury sustained. It is imperative to know accurately the nature and extent of the fracture and the extent of anatomic deformity before adequate treatment can be applied. This elementary advice is stressed because of almost weekly encounter with cases in which the attendant has been negligent in observing the first essential.

Reduction: If the nature and extent of a fracture are known the next procedure is its reduction. Here the judgment, skill and experience of the surgeon are of pronounced importance. Far too little time is spent in preparation for applying the most efficient reduction measures. Proper preparation of the patient, the table and the anesthetic, instruction of assistants and assuring the availability of splints, pads, cotton bandages and plaster will go far in preventing failures of reduction. The use of the fluoroscope is most helpful. In manipulations the soft parts must be respected. Brute force and disregard for muscle tension may early cause added injury that results later in untoward complications. Those who are not thoroughly familiar with the mechanics and the manipulative reduction principles of fractures will better delegate the manipulative reduction operation to experts in the treatment of fractures. Mention of the

1. A. S. Ross: "Journal of Medical Society of N. J., May, 1928."

2. J. J. Moorehead: "Journal of the A M A, Sept. 2, 1922."

necessity of complete anesthesia, whether by general, spinal or local methods might seem superfluous, but the failure to use an anesthetic is all too frequently the cause of non-reduction or faulty reduction. Again, a careful inquiry into the patient's constitutional condition must not be neglected for constitutional defects may alter methods of reduction. Much has been said regarding syphilis, but I have never encountered syphilis as a factor in non-union.

Preparation, full knowledge of the nature of the fracture and skilled manipulation will accomplish an anatomical re-alignment of the fragments in the preponderating majority of fractures. The results of Newel¹ who reports the necessity of only 64 operative reductions in a series of 2,000 fractures are characteristic of the possibilities of manipulative reduction and duplicate the results of many surgeons. The conversion of a simple fracture into a compound one is warranted only in exceptional cases.

Maintenance of Reduction: Satisfactory reduction, immediately confirmed by X-Ray, must be attended with positive maintenance of reduction by splints, plaster, traction and attentive after care. The results depend on the patience and skill of the surgeon and trained, carefully supervised hospital and nursing care.

Many indescribable types of splints and mechanical contraptions have been devised to maintain reduction of fractures. Some are useful while others are worthless. Each surgeon's experience determines their use in his practice. The best advice is for each surgeon to use such splints as he personally has found of value in enabling him to maintain reduction and institute early passive movement and massage. My own preference leans toward plaster paris in conjunction with suspension and traction frames in fractures of the leg, and the moulded plaster splints and airplane suspensions for fractures of the arm.

Appliances for the maintenance of reduction must accomplish four general purposes:

1. Hold the fragments in proper apposition.
2. Relieve muscle traction.
3. Permit passive movement of joints and massage of muscles.
4. Give comfort.

If these results are secured it matters not what is used, though the simpler the appliances the better.

Passive Motion and Massage: The importance of passive motion and massage is well recognized though far too frequently neglected to the detriment of good results. The rigid immobilization of a limb and joints over a period of weeks and months is reminiscent of past decades and merits severe condemnation.

Open Operation. The assertion has been made that the large majority of fractures can be reduced and maintained by the so-called closed or non-operative method. Such an assertion can be easily defended. Certain fractures, however, present complications that prevent satisfactory reduction. In these, and only these, the open reduction is justified.

The complications requiring open reduction are: Interposition of soft parts or loose bone fragments, multiple disrelated comminuted fragments, inability to maintain reduction and apposition, certain compound fractures and concurrent injury to nerve trunks.

When other resources have failed and there are definite indications for open reduction surgical experience must dictate the surgical procedure.

In many instances exposure of the fragments, under most rigid aseptic technic, freeing of the fracture ends and placing them in apposition is all that is required in addition to the application of maintenance splints. The use of steel plates and screws may have been of value but their use is to be vigorously discouraged. Heavy silver wire is to be discarded in favor of thin phosphobronze wire of great tensile strength and even this may be caused to yield to some absorbable serviceable gut. Nails, ivory pegs, steel screws or plates may well be accorded a place in our museum, rather than in a fractured bone. Absorbable bone pegs, screws or plates are indicated at times. The intermedullary peg, loosely inserted, is of service in some fractures. The sliding bone graft evokes the least criticism and gives cause to the fewest complications. The Parnham metal band is potent for much mischief. End results will be more satisfactory in general when the least possible foreign unabsorbable material is inserted.

In operative interference a wholesome respect of the periosteum is imperative. Conserve it, replace it, guard against crushing it with clamps or forceps, never incise it circularly but always longitudinally, being ever mindful of its osteogenetic function and importance in osteogenesis. Let there be a minimum of trauma of soft

1. Newel: "Sou. Med. Journal—August, 1927."

parts. Divide muscles in their planes and not through their bodies. Conserve nutrient vessels. Use a minimum of suture material to close and use a rat-tail drain for a few days. Desist attempting wound sterilization before closure by pouring in iodine, ether, alcohol or other solutions. If the technic has remained unbroken these antiseptics are superfluous and even if an error of technic has occurred these solutions are potent for greater mischief.

Skilled operative reduction is attended with good results while injudicious operative interference is frequently resultant in more serious complication and untoward results than those that would have been recorded were open surgery not employed.

NON-UNION—FAULTY-UNION

Just when to assert that non-union exists is difficult. Do not become too ready to assert that non-union is present. Time is most important and its length depends on the patient, the type of fracture, the complications and the treatment that is or was employed. When non-union is definitely established and in cases of vicious union there is but one treatment—the open operation on the fracture, undoing previous treatment errors, refreshing fracture ends, the use of massive sliding grafts, followed by the application of maintenance splints and consistent, persistent after care.

Fractures demand and require the exhibition and application of the highest degree of surgical judgment, surgical skill and unceasing, ever hovering and alert after care to minimize our untoward end results.

CONCLUSIONS

Such complications as Ischemic muscle atrophy and contractures, pressure ulcerations, constitutional complications of pulmonary, renal and cardiac involvement, emboli, and the time of immobilization, have a bearing upon end results and demand of the surgeon most skilled attention. Conclusions:

1. Accurate, careful diagnosis must be made before the proper treatment can be instituted.

2. Reduction can be accomplished by manipulation, under anesthesia in the large majority of fractures, thereby obviating the open operation.

3. The immobilization appliances should be simple but must maintain accurate apposition of the fragments.

4. Early passive motion and massage are imperative.

5. Frequent X-Ray examinations and persistent after care must characterize after treatment.

6. Open operation should be resorted to only in reduction failure, when soft parts or bone fragments interpose, in extensive comminutions and when reduction cannot be maintained by adequate splints and traction. In operative interference the use of unabsorbable material should be avoided.

7. When non-union or faulty union occurs the open operation with the use of large, sliding autogenous bone grafts, affords the best end results.

8. Treatment of fractures that is characterized by a minimum of untoward end results demands the highest type of surgical skill combined with a wide experience in the treatment of fractures.

DISCUSSION

DR. JOHN T. HODGEN (Grand Rapids): Dr. Warnshuis is desirous of a uniform method of reduction and the after-care of fractures. In my opinion there is no uniform reduction of fractures and there is no uniform after-care for most individuals because we all have a biological susceptibility to a mechanical turn of mind, either to a greater or lesser extent, so I think at the present time we have no uniform method.

One thing I should like to bring out as regards the treatment of Colles' fracture, is muscle fixation. By muscle fixation I mean after our Colles' fracture has been reduced and put up in a plaster, the individual should be taught how to fix his muscle in the splint. The preferable method to your plaster appliance is a posterior splint and an anterior splint, or a splint on your extensor surface and a splint on your flexor surface, after you have reduced the fracture by the muscle fixation method of exercise. Under those circumstances you will not get so much fixation of the flexor tendons as you will if you allow that patient to go along for a week, which is the usual length of time that we put these Colles' fractures up, and another point I wish to bring out is that an anterior splint and a posterior splint are much more comfortable for the patient than either a posterior or anterior splint.

I think it should be ruled in every hospital that an X-ray picture should be required before operation for the surgeon to make up his mind how to treat that fracture, because every fracture is a law unto itself. It should also be a law in every hospital that an X-ray is required before the patient leaves the hospital. That should be a law in every hospital in this state. I think it behooves the individuals who are on these staffs of various hospitals, and I think it is their duty, to teach the internes the principles and the primary factors of fracture work, and by that I mean not only the reduction and the after-care and the care of the patient, but plaster work. I believe that there is nothing so mechanically difficult as excellent plaster work, and the idea of the average interne (I know I had it and I think it is the average idea of the interne) is that plaster work is extremely simple,

but it is not. It takes years of practice in order to be an expert in the application of plaster.

I believe at the present time that there are very few fractures which cannot be put up with plaster except in a very few cases, for instance leg fractures or certain types of arm fractures, but I believe the ordinary splints which are put out by the instrument houses at the present time are not adequate, and I do believe that we will get better results in our fracture work if we use more plaster.

The Mayo Clinic at the present time is doing much more open operative work on fractures than heretofore. There are certain types of cases in which they always use the open method, as I understand. One of those, fractures of the femur and fractures of both bones of the forearm, as you know, is a very difficult case to reduce. So I think as time goes on there will be a tendency more and more to use open work in our fractures.

DR. FRED C. KIDNER (Detroit): Dr. Warnshuis has said so large a mouthful that there is really very little to add to what he said, but there are certain points we can accent. In my work as an orthopedic surgeon I see an enormous amount of bad results from fractures, and there are certain points which stand out in causes of these bad results. Dr. Warnshuis has mentioned most of them. First, in my mind, however, is the delay in the reduction of the fracture. The ordinary fracture can be reduced easily without much physical effort, often without pain to the patient if it is done within a half hour. It can be easily done sometimes without an anesthetic, but usually not, up to four or five hours after the accident. After that time all fractures become difficult. I want, therefore, to bring very strongly before you the necessity of immediate reduction.

During the war, fractures of femurs in the French and the English armies during the first two years caused ninety-five per cent death. During the last two years through the introduction to the stretcher-bearers of the Thomas splint, that mortality was reduced to twenty-seven per cent. In other words, the stretcher on the field, when they found a man with a fractured femur, could reduce that fracture by putting on a Thomas splint with a nail through the sole of his shoe and tying that nail to the bottom of the splint just as tight as they could.

Fractures which are reduced very early do not ordinarily swell. If a fracture of both bones in the lower leg is seen within an hour or two and reduced with very little force used by the surgeon, with the aid of the fluoroscope, an accurate apposition of the ends can usually be obtained and the fracture can be put up in plaster of Paris then and there, circular plaster of Paris, properly applied, and there will not be sufficient swelling to do any harm. That is not safe to do unless you can watch your patient. If swelling does occur it is easy to split the plaster. That is the first thing. My plea is for early reduction.

The second thing is the matter of operation. Certain fractures do have to be operated on, notably such fractures as the "T" fractures around the elbow, comminuted fractures where alignment cannot be obtained by manipulative results. Those should not be operated upon unless one has had a large experience in the technic of bone surgery. They should be referred to somebody who has had that experience, because the dangers are tremendous. Those open operations should never be done until the period of

swelling has practically subsided. Operation done through the hemorrhage and through the great edema which follows a fracture is inviting infection.

Causes of non-union, if such a thing exists, are, as has been said, inaccurate reduction and inefficient methods of fixation in good alignment.

Function is the most important thing that we have to look for in the results of fractures. Alignment is necessary, deformity is not pretty, but a moderately deformed fracture with useful joints is far better than a perfect one with stiff joints.

I have never seen syphilis have any influence on the healing of fractures. I fully agree that metal of any sort placed in contact with fractured bones is a mistake unless it is absolutely necessary. There are occasional fractures which cannot be held (at least the skill of the individual is not able to hold them) without some form of metal apparatus. If it is put on it should be taken off at the earliest possible moment in all cases.

Traction will reduce a vast majority of difficult fractures. The oblique fracture of the femur, which we see in the early stages and which we attempt to reduce on the fluoroscope table and then put up in some retentive apparatus, is very apt to slip by, and incidentally a plaster of Paris spica on such a fracture is a delusion and a snare. I have been putting on plasters for thirty years and I cannot hold an oblique fracture by that means. The traction of the muscles is so great that the plaster will be pulled up and out into the groin and then will have to be cut away at the groin until finally it becomes only a fixation apparatus without the extension element at all.

The time of operation should always be after the swelling has gone down. The time of closed reduction should always be, if possible, before the swelling has occurred, and that leads to one more point which I want to make before I sit down: The fact that a fracture is compounded, the fact that there is loss of tissue, the fact that there is great swelling when we first see our fracture, should in no way deter us from reducing that fracture. The reduction of a fracture, even under those bad circumstances, puts the tissues at rest and will very frequently lead to a prompt subsidence of the swelling and will very frequently help us to avoid infection.

DR. W. J. CASSIDY (Detroit): I have put in a good many hundreds of bone plates. I have put in bone grafts. I have opened them in the country on the kitchen table, and my septic wound infection has been less than one per cent. I have not seen these terrible results that it is claimed these metal appliances produce. My genial friend, Sherman, of the United States Steel, I think has put many, many hundreds in, and he has not had this terrible mortality and infection these men are telling us about. It isn't the little steel plates that are put in that make the infection; it is the fellow who puts them in. If you are a good laparotomist, you may be a poor bone surgeon, because you have to learn one thing in bone surgery, that is a minimum gentle handling of tissues using a simple line of force, using your knees or your long bones, and reducing with a minimum amount of effort the ends of the bones and then a little gentle clamp with a minimum amount of screws. Some put on a nice bone plate with thirty or forty pounds extension on a Holly table, leave it and screw the plates down. The fractured bones are pulled

apart and the plate won't let them go back together.

It has not been my experience to see these non-unions as the result of plate implantations. I will show you as many persons who have had no plate insertions. I will show you as many in individuals who have never had an open operation on their long bones. That is an individual problem. Bone grafts do not always cause non-unions to heal. I will show you patients with five to six bone grafts done by various men in the country.

A massive bone graft is advocated by our friend in Rochester clinic and it comes back with a non-union as bad as the other fellow has. In some of these cases you can't get union. Why, it is sometimes impossible to explain. You see some cases where there has been practically no displacement in which there has been a very, very minimum amount of trauma applied to the external part of the leg and also a minimum amount of handling. It is not due to that, nor is it due to too much manipulation. You see it sometimes in a simple fracture without fragmentation. It is always due, as a rule, to an inherent condition in that individual himself.

In applying principles you can't apply the same principles to a fracture of the long bone that you do to a fracture of the flat bone. You can't apply the same principles to a fracture of the leg as you do to a fracture of a bone of the head. Your skull fractures have for their basic fundamentals relief of intracranial pressure and intracranial hemorrhage, whereas your long bones have to deal principally with the deformity and as accurate reduction as you can possibly do consistent with a good workable leg. A great deal has been blamed upon the doctor, a great deal should be blamed upon the X-ray, for the reason that since the advent of the X-ray, surgeons and the laity at large being shown the plates demand greater apposition of fragments than they did before. Many, many of these fragments which are rayed long periods after they were set in the early days, with the X-ray show marked deviation from the general alignment, but being in the fleshy parts of the leg they didn't show any external deformity, the patients had very little shortening and practically no joint limitation. Since the laity see the X-ray plates, they demand closer reduction, and that often gets you into trouble, because while apparently at the time you saw it or at the time of your first application or immobilization you had a fair reduction, then somebody comes along and says, "My, what a terrible looking fracture you have; it is a half inch out of place. You are going to have a short leg, a crippled leg." Then the fun starts, and somebody starts manipulating, and as a general rule multiple manipulations often end up in closed reduction in order to proximate the fracture.

DR. JAMES MATTHEWS (Detroit): There are a lot of things that come up in one's experience in fractures, and the treatment of those conditions is only alluded to. I was amused a moment ago when someone spoke about the fractured femurs with enormous swelling, and I was wondering if he had a remedy for that. It is a very formidable thing to go up against a femur with a large displacement, a lot of swelling, having stood for several days before treatment is begun, and the question arises in your mind: What would be done for a condition like this? I suppose many men would think the same as I was thinking. Probably you have seen them.

I have seen them. In a case like that, in my own experience, I think an anesthetic is indicated, or some form of anodyne, and vigorous massage resorted to, sufficient to cause fatigue of those swollen muscles, the limb being put up, of course, in extension and suspension and counter-extension, naturally, and from that time on, in a Thomas splint, with daily massage. If those fractures do not come together on this first manipulation, it has been my practice to put a heavy weight on, thirty or forty pounds, for an hour, and then reduce it to twenty for two or three hours, and return to the thirty-five pound weight again, or thirty-eight pounds, as the case demands. It is surprising how those bone fragments will come together. That is one point, and I think possibly you will get something from it.

The next thing I want to call attention to is these plaster casts that have been referred to. I am a firm believer in plaster casts. I think there is no treatment so wonderfully effectual in fracture of necks of the femurs than the plaster cast if you have sufficient abduction. That is the big thing. You will get a wonderful recovery, there will be no shortening, and I emphasize the abduction feature.

The next thing with a plaster cast is that it should not be left on there for six weeks or two months or three months, as the case may be. That cast should be opened on the third or fourth day and daily massage begun. Gentlemen, I can't tell you in words the importance of this daily massage in fractures. I don't care where the fracture is. There is as much to contend with in the broken bones and traumatized periosteum, there is as much to be looked after in those soft tissues as in the bony structure. One is just as important as the other, because it is the soft tissues that give you most of your trouble. I think you will all agree with me on that, and the massage is a wonderful remedy for those soft tissues if you use your judgment as to the amount.

There is another point I want to bring out. Many of you have seen these fractured femurs with non-union, I mean the neck of the femur, in people past the age of seventy. I have seen quite a number of those. I have followed other men on them. Only recently I saved a damage suit on one of those. There is only one thing to do with them. You can't operate an individual past seventy with a non-union fractured neck of the femur. It is a hazard, and a big one. Those cases do very nicely by applying a caliper, and you will get a fibrous union. It will enable that man or woman, as the case may be, to get around, to attend to his daily duties, to go out in his garden, with the assistance of a cane; he can visit his friends, he can go out in his motor car, and so on. Otherwise he would be lying in bed or in a wheel chair. You can do nothing more for them than get a fibrous union, and this caliper measure can do that if it is adjusted to the case.

Most of these fractures I see with somebody else occasionally, I notice a stiff knee. That is something that a plaster cast will do. If you put a cast on a man's fractured femur for six weeks or longer, two months they usually leave it on, you are going to have a stiff knee. That is a hard thing to handle; that is a hard thing to correct afterward. Many times there is a damage case or it comes before the compensation board. That can be obviated by this cast or this Thomas splint cast being opened, or if you use a Thomas splint you have it exposed so you

can do massaging, and at the same time give a little passive motion on the knee daily, and that would obviate a stiff knee. I can't emphasize too strongly because I have seen some of those, and there are cases that are not desirable cases to meet on the street, these fellows that have stiff, painful knees after your treatment. You will hear a lot of criticism, and it is very unpleasant, particularly in a small town where you have prestige and you have two or three fractures that don't turn out well. You might as well move out of town. In the city, of course, it is different. You don't come in contact with them and you get by.

It is a big subject in surgery. I don't think there is any department of surgery to be compared with the surgery of bones or the handling of fractures. More depends on it. That man wants to return to his former vocation in industry and if he has a disability it is impossible to have the same earning capacity.

DR. F. C. WARNSHUIS (Closing Discussion): I appreciate the discussion. The only thing that inspired this paper was the experiences that we come across. Your State Society has a medico-legal defense committee which defends men against suits of civil malpractice. In an experience of twenty years we have found that the two chief claims that are made against doctors are for malpractice in throat operations and malpractice in the treatment of fractures.

It may not be your individual experience in your community to encounter these situations.

RADIUM EFFECTS DUE TO CAUSE OTHER THAN COSMIC RAYS

Whatever it is that makes radium, and related elements, disintegrate and give off the rays that are so helpful both to the physicist and the physician, the cosmic rays are not responsible. This has been found by Dr. Louis R. Maxwell, National Research fellow working at the Bartol Research Laboratory of the Franklin Institute. He will report his latest researches in the forthcoming issue of the institute's journal.

Shortly after the discovery of radium and its effects, over 30 years ago, the suggestion was made that some highly penetrating rays bombarded the earth from space, and were absorbed by certain elements. This energy, it was thought, might break up the radium atoms, and be given off again as rays of longer wave length.

The eventual discovery of such highly penetrating rays, which have been particularly studied by Dr. R. A. Millikan, of the California Institute of Technology, brought a renewal of interest in this theory. Though these rays from space are highly penetrating, they are completely stopped by a thickness of 225 feet of water, or equivalent amounts of other materials.

Dr. Maxwell took some polonium, another element in the radium series, and measured the rate at which it disintegrated on the surface of the ground, and in a mine 1,150 feet below the surface. The mine contained a large quantity of a zinc ore, willemite, which is more absorbent of the rays than water. At the depth at which the experiment was performed, the material above absorbed as much as 400 feet of lead, or more than half a mile of water, so that it was certain that no cosmic rays could reach the instruments.

Despite this, the rate of decay of the polonium was almost exactly the same whether the experiment was done on the ground or in the mine, and

When we have come into the office the call for assistance once or twice a week from members of our Society for defense in malpractice, then it becomes a subject that we as a state profession should take some definite action upon, and in our professional work be a little more particular and guarded in the method by which we treat these fractures.

Just last month three claims for defense came into the office, one for a Colles' fracture where the attending doctor without an anesthetic, without an X-ray, merely put on a plaster splint, left it on for pretty nearly nine weeks, and you can imagine what the result was. The next one was a comminuted fracture of the tibia and fibula in which there was no X-ray, there was no consultant, no effort apparently was made at a reduction, but a plaster cast was applied and left on for fourteen weeks. You can imagine what the result was. Another case was a fracture in one of the elderly people referred to, in which the doctor made no attempt at a diagnosis, except having the woman in bed nearly two months, and then an osteopath transported her to his private office (the doctor said she could not be transported) where he had a few beds, as we find in some of the smaller towns, took an X-ray and revealed to the people the existence of a fracture, another claim for suit. That is the reason I have tried to summarize the problem of fracture treatment and indicate an outline of what our untoward results are and why they are, in order that then we might be a little more careful and observe the principles that have been so well enunciated by both Dr. Hodgen and Dr. Kidner.

thus Dr. Maxwell concludes that there is no appreciable effect of cosmic rays on radioactivity.

As a matter of fact, his calculations show that it is unreasonable to expect any such effect. Only once in some 20,000,000 years would a cosmic ray be absorbed by a polonium atom, in the apparatus, so feeble are the rays. This would make it entirely impossible to measure the effect of the absorption of a ray by an atom, and also shows that the vastly more frequent breakup of the polonium atoms cannot be due to such an absorption.

Even if the cosmic ray is something like a bullet, and merely has to pass near a polonium atom to break it, they cannot be held responsible, Dr. Maxwell points out. With the size of the polonium plate used, only two cosmic rays would reach it every second, while 3,000 atoms of polonium in it disintegrate every second. Thus less than a tenth of one per cent of disintegration could be blamed on the cosmic rays.—Science Service.

UNDULANT FEVER

In 125 cases of undulant fever that occurred in Iowa, a clinical investigation made by A. V. Hardy, Iowa City, revealed that most of the patients lived on farms or in country towns. The occupational groups chiefly involved were farmers and packing house workers. There was a striking variability in the symptomatology and course. The relative frequency and severity of the common symptoms is shown. Positive physical observations were few, the most frequent being an enlarged spleen. The temperature was generally intermittent or remittent, and undulations were not often apparent. The diagnoses were confirmed by agglutination tests, almost always repeated, and, when possible, by blood cultures.—Journal, A. M. A.

EFFECT OF VAGAL PRESSURE ON CARDIAC RATE AND RHYTHM

W. J. WILSON, M. D.*
DETROIT

Personal interest in the subject of vagal stimulation was aroused through its effect on a patient suffering from paroxysmal tachycardia in April 1921. At the time of the first examination, the pulse-rate was 160, systolic blood-pressure 95, diastolic 75. On pressure simultaneously of both vagi, he became unconscious. There were clonic contractions of the muscles of the arms, of the upper portions of the body and of the head. It was noted at this time that cardiac standstill had been produced. On releasing pressure, which was done almost immediately, a premature systole was noted, after which the cardiac rate, determined by auscultation, was 86. Electrocardiograms taken later that day in the office, showed normal rhythm.

Since that time, we have used vagal pressure in a great number of cases but never have pressed on both vagi simultaneously. Although much has been written in the literature on this topic, no electrocardiographic studies have been published. We therefore proceeded to take, in a routine manner, 160 cases, first using the effect of right vagal pressure only, which was done in 72 cases; later with pressure, first on the right and shortly afterward on the left vagus, in 88 cases. Of the 160 cases in which pressure was used on the right vagus, the rate was slowed in 57, or 35%. In 19, the rate was increased, while in 84 there was no change. With pressure on the left vagus, the rate was slowed in 36 cases or 40%, increased in 6 and there was no change in 46 cases. No change was apparent in either side in 16 of these cases. On considering the effect of vagal pressure on both sides in the same patient, the rate was slowed by right vagal pressure in 21; by pressure on the left vagus in 35. With pressure on either, the ventricular rate was slowed in 14 cases. Cardiac standstill was produced in 5 cases; in two of these cases, right vagal pressure only was tried. Left vagal pressure was effective in 2 cases, right in 3 cases, pressure being tried in 3 cases on both sides. Summary:

EFFECT OF VAGAL PRESSURE			
Pressure on both right and left vagus	Cases	88	
Pressure on right vagus only	Cases	72	
Total		160	
Pressure on right vagus:	Pressure on left vagus:		
Rate slowed	Rate slowed	36 or 40%	
Rate increased	Rate increased	6	
No change	No change	46	
Total	Total	88	

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No change on either side	46
Both sides in same patient	88
Rate slowed on right side	21
Rate slowed on left side	25
Total	56
Rate slowed on both sides	14
Number affected	42
Number not affected	46
Cardiac standstill	5 or 3 1/2%
Affected by right vagal pressure	3
Affected by left vagal pressure	2
Pressure on both sides	3
Pressure on right side only	2

As far as effect by age-groups is concerned, vagal pressure seems to be more effective with the advance of years, as will be seen by the following table:

AGE GROUPS				
Ages	Cases	No Effect	Change	Percent.
1-10 years	5	3	2	40
10-20 years	19	13	6	31 1/2
20-30 years	25	10	15	60
30-40 years	30	13	17	56 2/3
40-50 years	34	12	22	64 2/3
50-60 years	26	9	17	65
60-70 years	19	6	13	58 1/2
70-80 years	2		2	100

Eight cases of auricular fibrillation appeared in this series of 160 cases, right vagal pressure being effective in 4 cases or 50%, while left vagal pressure was effective in over 85%, as shown by the following table.

EFFECT OF VAGAL PRESSURE ON CASES OF AURICULAR FIBRILLATION			
Age Groups	No. Cases	Before Pressure	R.V.P. L.V.P.
1-10	1	100	90 90
30-40	1	120	120 120
			for short period 80
40-50	2	120 135	100 90-1 P.B. 100-1 P.B.
50-60	1	100	100 80
60-70	3	80 120 80	80 60
		80 80	
		Cardiac standstill 2 2/5 seconds.	
		Not affected by right vagal pressure	50%
		Not affected by left vagal pressure	14 2/7%

As for other effects being produced, in Case 1530, after right vagal pressure, a downward deflection of the P-wave was noted in the third and fourth beats after pressure, due to displacement of the pacemaker. In Case 2020, disappearance of the P-wave was noted after both right and left vagal pressure, this lasting but for two or three beats at a time. In Case 1954, flattening of the P-wave was noted but the

string was never absolutely isoelectric. In Case 1410, both the taking of a deep breath and right vagal pressure were effective in slowing the cardiac rate and decreasing the voltage of the P-wave. In Case 3032, after left vagal pressure, the third P-wave was not followed by any ventricular complex.

In Case 1003, complete heart-block was effected by right vagal pressure. In Case 1640 of bundle-branch block, after right vagal pressure, a premature ventricular systole appeared, taking the place of the two normal beats. In a case of heart-block which has been under observation for a long period, in which the P-R interval is almost constantly $8/25$ of a second, slowing was produced by left vagal pressure but the P-R interval was unchanged, nor was there any change in the complexes. Right vagal pressure was ineffective on the rate and the P-R interval remained unchanged.

In cases where cardiac standstill was produced, in some the P-wave appeared before pressure was released and was followed by normal ventricular complexes, while in others, Case 1966, the ventricular

complex appeared without any preceding P deflection, then a P-wave appeared, pressure still being continued. In Case 2082, pressure being continued, a P-wave appeared $4\frac{3}{5}$ seconds after the beginning of pressure; pressure being released soon after, an R wave appeared $1\frac{3}{5}$ seconds later than the P-wave, ventricular standstill amounting to 6 seconds. In Case 2077, cardiac standstill was existent 4 seconds as a result of left vagal pressure, normal complexes appearing almost immediately on release of pressure.

CONCLUSIONS

Vagal pressure should not be applied simultaneously to both vagi. There is no evidence in these clinical records that right vagal pressure is more effective on the sinoauricular node than left vagal pressure. In general, left ventricular pressure is more effective in slowing the heart than is right vagal pressure. When this is produced by left vagal pressure, there is usually no change in the P-R interval. Right vagal pressure was used in the only case where complete heart-block was produced by vagal pressure.

VITAMIN D PREVENTS RICKETS BY KILLING BACTERIA, IS CLAIM

Rickets is fundamentally a bacterial disease, caused by the poisonous products of bacteria in the digestive tract. Vitamin D prevents this distressing ill of childhood primarily by killing off a large proportion of these harmful micro-organisms. These claims, differing radically from the concepts now orthodox in physiology, were advanced at the annual meeting of the American Chemical Society by Lester Yoder, chemist at the Iowa Experiment Station.

Mr. Yoder was led to his conclusions by a study of the bacterial population of the intestinal contents before, during and after the administration of vitamin D. While his experimental animals were receiving the vitamin the bacterial count fell off markedly, but increased again when the vitamin was discontinued. For this reason the Iowa chemist suggests the possibility of using

vitamin D as a means for the general control of the bacterial growths within us, as well as for the specific cure or prevention of rickets.

Studies on vitamin D in the test-tube as well as on its physiological effects have confirmed Mr. Yoder in his opinion that it exerts its principal effects without ever leaving the digestive tract. Pure ergosterol, which is the stuff that becomes vitamin D when ultraviolet light has shown upon it, is almost insoluble in water, he said. After exposure to ultraviolet radiation it becomes even more insoluble. In this condition it would be extremely difficult, if not impossible, for it to pass through the intestinal wall and be absorbed into the circulating blood. For this reason the experimenter concluded that it exerts its chief influence in its passage through the digestive tube, not in the circulatory system.—Science Service.

DIET IN TUBERCULOSIS

In order to get accurate and up-to-date information on diet in tuberculosis and to present the matter of feeding the tuberculous patient in a plain and practical way available for general practitioners, John B. Hawes, 2d, Boston, wrote personal letters to 40 or 50 men in this country, each one a well known specialist on this subject, asking eight questions. He received 36 excellent and detailed answers. Summarizing the opinions of these physicians, including his own, in regard to diet in tuberculosis, it is fair to conclude that: Lunches between meals are rarely advisable. The average patient enjoys his food more and takes a larger amount of nourishment when he confines himself to three good meals daily than in any other way. Egg-nogs in any form at any time are "an invention of the devil." Raw eggs, if easily borne and if the patient is underweight, do not do

any harm and may do good. They are not so digestible as cooked eggs and on the whole are rarely indicated. About one quart of milk daily, four or five glasses, with meals, is the maximum amount that should be given. A glass of milk with each meal is usually sufficient. There are no special foods that need be emphasized. Fruit and colored vegetables will help correct constipation; they contain vitamins but little if any nourishment. Potatoes, macaroni and rice contain much food value. The bowels should act at least once daily. A mild laxative once a week is often a valuable help if a diet with plenty of roughage is not enough. Five or six glasses of water daily is advisable. A rest before and especially after each meal is essential. The dictum "Approach and leave each meal in a rested condition" is an extremely good one to stick to.—Journal A. M. A.

THE WHY OF BUTTERMILK FEEDING*

DON H. DUFFIE, M. D.**

CENTRAL LAKE, MICHIGAN

While acid milk is gaining in favor for infant feeding, many are not yet using it. It is thought that a restatement of the reasons why, may lead others to try this most satisfactory food.

For the babe denied his natural supplies, there are offered numerous and clamorous proprietary substitutes, each of which would seem to resemble breast milk more closely than breast milk resembles itself. Yet somehow they often fail to agree with the one infant in whom a frantic family is interested. These advertised foods are all so expensive that even where physically a success, they may be financially a failure.

What most of us want is an inexpensive food that even a sick baby can digest. It is obvious that to do the infant any good, he must be given enough food, and it must digest. But gastric digestion can occur only when the stomach contents are acid. And while the healthy infant has enough acid available to acidify a stomachful of breast milk, the trouble is that its common substitute, cow's milk, requires *three times as much acid*, which friend babe does not have, hence ye belliake. That's why we all dilute it for him, that he may have the solace of a full, yet *sufficiently acid* stomach.

And diluted milk usually is satisfactory, in health. But there are times when it will not do. In malnutrition cases, as Marriott points out, the calory requirements are based on what the babe *should* weigh, whereas his digestive capacity is not even up to what he *does* weigh. In such cases a more concentrated food is absolutely vital. So, instead of filling half or two-thirds of his stomach with water, by dilution, we may give him his fill of full-strength milk and lend him acid enough to make it digestible. It works well, both on paper and in babies.

This reluctance of cow's milk to become acidified is not due to alkalinity, since it is actually more acid than breast milk, but is due to what are called buffer substances present. Buffer action is a sort of chemical obstinacy, a stand-pat attitude, a refusal to become acidified.

Chart one, (from Marriott and Davidson)¹ makes apparent this buffer action

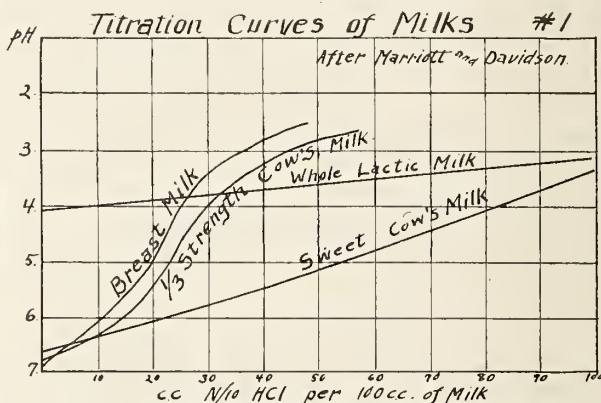


Chart 1, from Marriott and Davidson, showing that same amounts of acid produce different degrees of acidity in different milks, due to variations in buffer content. This buffer action is more obvious when same curves are plotted on an arithmetical instead of this logarithmic scale: see chart 2.

as affecting acidities produced when acid is added to different milks. Degrees of acidity are here expressed by hydrogen ion concentration, designated by the symbol "pH", all of which is doubtless clear enough to the initiated but somewhat mythical to the rest of us. Enough said that pH1 is approximately the acidity of N/10 HCl, pH2 of N/100, and pH3 of N/1000, pH7 being neutrality. But it is

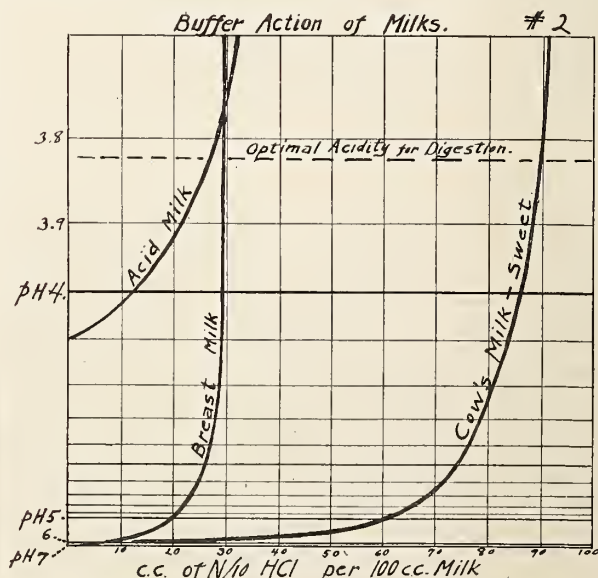


Chart 2. Same data as in chart 1, plotted arithmetically, making buffer action more conspicuous.

1. Marriott, W. M., and Davidson, L. T., "Am. Jour. Dis. Children." Dec., 1923, vol. 26, p.542-553.

*A demonstration presented before the Mich. State Med. Society, Detroit, Sept., 1923.

** Dr. Duffie is a country doctor in north Michigan, who delights in simplifying technical themes. His "Book for Us Diabetics," reviewed in our October issue, is an entertaining version of modern diabetic treatment, comprehensive even to the uneducated. He is a graduate of George Washington (D. C.) '20.

hard for us of the non-mathematical minds to grasp values on this conventional logarithmic chart, and to realize that each successive horizontal line represents *ten times* the acidity of the line below it.

I have therefore re-drawn this chart (No. 2) to an arithmetical instead of the geometrical scale, such that equal distances on the chart represent equal differences in acidity, at all levels. Such a plotting makes the buffer action (the sag in the curve) more obvious.

So much for differences in vitro. Now for differences "in baby". Chart three,

Gastric Acidity in Infants, Sick and Well.

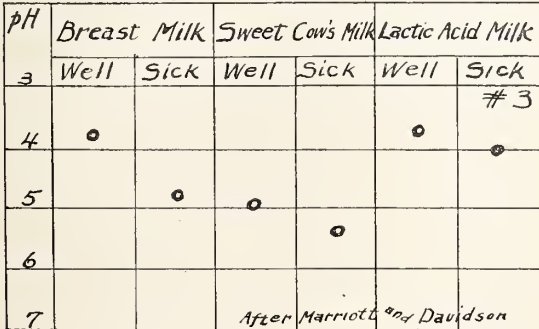


Chart 3. From Marriott and Davidson: average gastric acidities in young infants at height of digestion. Difficult for one not conversant with pH values to realize the enormous difference between first and second columns.

also from Marriott, shows acidities found at the height of digestion in the stomachs of young infants, in different states of health and with different milks. This chart also becomes more eloquent to those of us who are not highbrow, when re-drawn

Infants' Gastric Acidity - Arithmetical Graph.

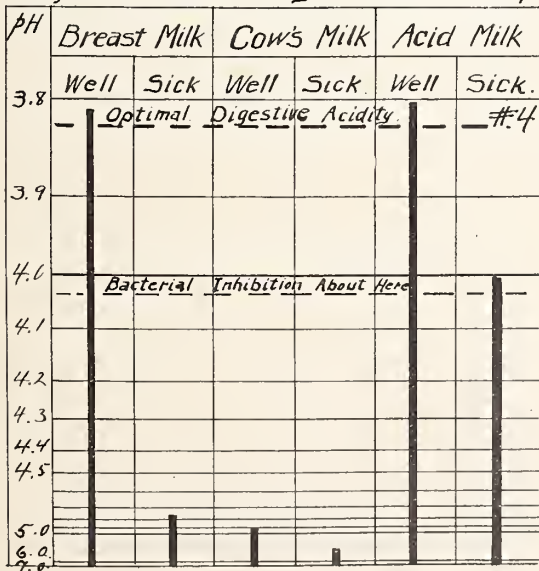


Chart 4. Same data as chart 3, so plotted that equal distances on chart represent equal differences in acidity. Shows an advantage of acid milk over breast milk in illness, both as to digestibility and inhibition of bacterial growth.

to an equal-parts scale, as in chart 4. The points of interest here are that even in healthy infants, the acidity of undiluted cow's milk is much lower than that of either breast or acid milk, while in the *sick* infant, acid milk is the only one that at all approaches the optimal acidity for digestion. This may explain why acid milk often agrees with a sick baby better than does breast milk. In fact, when acid milk fails to digest, we may suspect a parenteral infection, often an otitis.

Another advantage of lactic acid milk is that whereas sweet milk is such favorable culture medium for pathogenic bacteria that it must be kept on ice and is commonly taboo in all diarrheas and dysenteries, the pH of *acid* milk is so inhibitory to bacterial growth that it is practically self-sterilizing, and may be successfully fed to babies in all types of diarrhea—a far cry from the old "diet" of castor oil and barley water!

Cultured lactic acid milks may be bought in any city, and require only the addition of carbohydrate, of which the lowly Karo syrup (dark) is fully as satisfactory as the fancy maltose mixtures. Where cultured milks cannot be bought, acid milk can be easily made at home. A pint of milk is brought to a boil, strained, and chilled cold. 3 cc (2/3 teaspoonful) of lactic acid is added to the desired amount of corn syrup, mixed, then the mixture stirred very slowly into the chilled milk. That's all. The nipple is enlarged with a knife as necessary to let the thick milk through.

Marriott advises a four hour interval, feeding the same quantities as of breast milk (all the baby will take).

MOST FOOD POISONINGS CAUSED BY MEAT

Meat and meat products are responsible for most food poisoning outbreaks, members of the American Public Health Association were told at their recent meeting at Minneapolis by Drs. Thomas G. Hull and Lloyd Arnold of the Illinois State Department of Health and the University of Illinois College of Medicine. When much meat is eaten, the bacteria normally found in the small intestine, where meat is chiefly digested, are disturbed, the doctors explained. The germ-killing action normally occurring in the small intestine is interfered with for six hours after a meat meal. Thus when germs are taken into the system with a meat meal, they have a good chance to develop and cause illness.

Material containing a germ frequently implicated in food poisonings will produce irritations of stomach and intestines when it has been added to fresh meat, but no poisonous effect can be seen when the same material is added to a bread and milk diet, the scientists declared. — Science Service.

THE EARLY DIAGNOSIS OF EXOPHTHALMIC GOITER*

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ROCHESTER, MINNESOTA

According to H. S. Plummer's two-product hypothesis of exophthalmic goiter, the unknown stimulus which acts on the thyroid gland during the course of the disease results in the production and delivery to the tissues of an abnormal thyroid secretion, and, in nearly all instances, of an excessive quantity of normal thyroxine. The characteristics of the disease may be readily correlated with this hypothesis. Almost always there are evidences of hyperthyroidism which are identical with the phenomena associated with feeding excessive quantities of thyroid extract, and there are also other phenomena which are characteristic of exophthalmic goiter but are not seen in cases of hyper-functioning adenomatous goiter, nor in cases in which excessive quantities of thyroxine have been administered. The latter characteristics are: (1) exophthalmos; (2) stare (which may or may not be associated with exophthalmos); (3) characteristic psychic status of the patient; (4) frequent, useless, purposeful movements, and (5) gastro-intestinal crisis with diarrhea and vomiting. Any effort to diagnose exophthalmic goiter more accurately must come from a study of these characteristics and of careful and repeated observations of patients, with the characteristics in mind.

Exophthalmic goiter is a common disease in the United States. Pemberton has pointed out that patients with this disease are consulting physicians in increasingly earlier stages of the disease. It is also probably true that the condition is being recognized earlier throughout the country. This is of the greatest significance from the point of view of the disability caused by the disease. The results of treatment are much better in the early cases, and the surgical mortality is considerably less if the patient is operated on early in the course of the disease. Although degenerative changes may not be demonstrable, if the hyperthyroid state has lasted for a considerable period, experience has shown that the surgical mortality is higher. Moreover a prolonged period of disability prior to the institution of surgical procedure directed toward control of the disease is no longer necessary. The use of

compound solution of iodine (Lugol's solution) has not only reduced the surgical mortality to less than 1 per cent, but has eliminated the necessity for time-consuming preliminary procedures such as injections of hot water and ligation of arteries.

The typical case of exophthalmic goiter presents such striking signs that it is not difficult to make a diagnosis. In many cases, the diagnosis may be made at first sight. The common picture of extreme nervousness, frequent movements, exophthalmos, stare, tremor, and excessive sweating which are so obvious in many severe cases are so familiar that they do not need emphasis. In the early case these phenomena may be so vague that they may be easily overlooked. There are certain signs and symptoms which always call for an investigation of the function of the thyroid gland. Any unexplained loss of weight, especially if it occurs simultaneously with a normal or increased appetite, should at once suggest the presence of hyperthyroidism. Increased pulse pressure in the absence of aortic insufficiency is a significant sign and always indicates an investigation of the thyroid gland. Demonstrable loss in strength is a symptom which may be easily overlooked. This is best noted when the patient mounts the step of the examining table; the loss of strength in hyperthyroidism frequently is so marked in the quadriceps muscles that women who have been doing all their housework will have difficulty in stepping on the high step. Tachycardia occurs so frequently and in such a variety of conditions, including nervous exhaustion, that it is of less significance than the foregoing signs. However, if it is constant, it should be considered in the diagnosis of hyperthyroidism.

Two groups of emergency cases are of particular importance as regards the thyroid gland. These are so easily overlooked that hyperthyroidism should be considered as a routine concerning any patient who

*Read before Upper Peninsula Medical Society, Ironwood, Michigan, August 7, 1929.

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presents evidence of severe gastro-intestinal or of circulatory disturbances which are not readily explainable on some other basis. Patients may be in the gastro-intestinal crisis of exophthalmic goiter, and in their seriously prostrated condition other suggestive signs may be absent. Many patients with cardiac decompensation are suffering from hyperthyroidism, and, in fact, it is frequently the latter condition which overloads the heart to the point of producing decompensation. Certainly, in many such cases in which there has been considerable organic injury to the heart relief of hyperthyroidism is followed immediately by restoration of cardiac compensation. Occasionally patients in diabetic coma will not respond as expected to the usual procedures, and in a few such instances the administration of iodine either by way of stomach tube or by proctoclysis will result in clearing of the coma. In all of the foregoing emergencies iodine should be administered if hyperthyroidism is suspected, although a definite diagnosis may not be possible at the time. By this plan, the lives of some patients who would otherwise have succumbed to unrecognized exophthalmic goiter will be saved.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis of exophthalmic goiter may offer many problems. It may be very difficult to distinguish it from hyperfunctioning adenomatous goiter. The particular importance of such differentiation is that if the patient has exophthalmic goiter iodine must be administered before surgical procedures are instituted. Therefore, in all doubtful cases it is well to give iodine for a time before operation. The presence of an adenoma in the thyroid gland of a patient in a hyperthyroid state is not evidence of hyperfunction of that adenoma. In from 20 to 25 per cent of the exophthalmic goiters seen at The Mayo Clinic adenomas are present in the gland. The absence of adenoma in the presence of hyperthyroidism is *prima facie* evidence of exophthalmic goiter. One must be sure, however, that the adenomas are not situated below the sternum, in a position in which they cannot be palpated. The characteristic differences between the two diseases, as already noted, constitute the chief points of differential diagnosis. A history of definite crisis also indicates exophthalmic goiter. Bruits over the gland are common in exophthalmic goiter; only those bruits caused by pressure or referred

from the aortic area are heard in hyperfunctioning adenomatous goiter. Undermined nails with turned up edges are frequently seen in exophthalmic goiter and rarely seen in hyperfunctioning adenomatous goiter.

Nervous exhaustion may be a difficult factor in the differential diagnosis since the nervous manifestations of fatigue may simulate rather closely those of mild hyperthyroidism. Of course, the two conditions frequently exist simultaneously in the same patient. Patients who are nervously exhausted not uncommonly have elevated metabolic rates because of their inability to relax sufficiently to take the test under "basal" conditions. In the presence of neurosis without hyperthyroidism frequent repetition of the test will usually result in a fall to a normal level. This, however, does not always occur, and in these cases a determination of the effect of the administration of iodine is of value. This procedure is, indeed, of great value in many cases of all types in which exophthalmic goiter is suspected. If the diagnostic criteria of the disease are so mild or so masked as to preclude a positive opinion, careful observation during a period in which iodine is administered often will clear up the diagnosis. The most striking change following the use of iodine will be the disappearance of the stare, the characteristic psychic state, and the characteristic movements. It is usually necessary to give iodine for seven or eight days to establish this change. Change in the basal metabolic rate is also of significance, frequently of particular significance, because none of the other expected changes is measurable. Before giving iodine to determine its effect, basal metabolic rates must be taken repeatedly until they remain constantly at the same level. Training in taking the test frequently causes sharp drops in the reported result. After a constant level is reached, a further drop as a result of the administration of iodine is strong evidence of exophthalmic goiter. Further evidence may be obtained by stopping iodine. The patient with exophthalmic goiter will then show a rise in basal metabolism with a return of the characteristic phenomena of the disease.

Patients with essential hypertension frequently present many manifestations of hyperthyroidism, including increased basal metabolic rates. Rest in bed in such cases will occasionally result in normal metabolic rates. The effect of iodine also

is of some value in the differential diagnosis, but of less value than in cases of nervous exhaustion. It is often necessary to put these patients to bed in a hospital and obtain daily basal metabolic rates for several days before the true metabolic level can be determined. In a few instances in which the patient probably is not primarily in a hyperthyroid state, even such a procedure may not result in obtaining accurate basal metabolic rates. If such patients have considerable adenomatous tissue and the hazard of operation is not too great because of the general condition, thyroidectomy is advisable. Prolonged observation, especially in conjunction with the determination of the effect of iodine, and of the effect of stopping iodine, will usually give sufficient evidence on which to establish a diagnosis. Essential hypertension alone, — however, may produce a constant and considerable elevation of the basal metabolic rate. I have seen one patient with essential hypertension and hyperfunctioning adenomatous goiter whose basal metabolic rate was more than +90 per cent. Four weeks after the hyperthyroidism had been relieved by thyroidectomy the basal metabolic rate continued to be +45 per cent.

Patients with cardiac decompensation sufficient to produce dyspnea will have increased basal metabolic rates. Willius and Boothby have demonstrated the fact that this increase is due solely to dyspnea. As soon as dyspnea disappears under appropriate treatment the basal metabolic rate falls to normal except in cases in which there is hyperthyroidism. It is, of course, important to know in all cases whether hyperthyroidism is associated with cardiac decompensation. Often the patient does not show evidence of enough cardiac injury to explain the decompensation. Increased pulse pressure may be the most suggestive sign. Unexpected loss in weight before the development of edema should make one suspect hyperthyroidism. If the diagnosis cannot be made definitely, safety dictates that iodine should be given until the patient is out of danger, after which the function of the thyroid gland should be studied more leisurely. Auricular fibrillation suggests the presence of hyperthyroidism; in The Mayo Clinic the latter has been found to be the most common cause of auricular fibrillation. Such comparative frequency is not true in many other clinics in which rheumatic disease of the heart is observed much more commonly than the hyperthyroid states.

Patients with parkinsonian syndrome often have a warm, moist skin and staring expression suggestive of hyperthyroidism, and the association of the two conditions is seen not infrequently. Usually historical evidence, absence of loss of weight, normal pulse pressure and the absence of any other physical evidences of hyperthyroidism are sufficient to rule out hyperthyroidism. In some instances, however, this cannot be done easily. The basal metabolic rate is usually elevated because of the tremor and increased muscular tonus of the patient with paralysis agitans. Often rest in bed, particularly rest and the administration of hyoscine, are sufficient to establish reliable metabolic rates. Determining the effect of iodine may be of value in this group of cases. In the absence of all clinical evidences of hyperthyroidism, a basal metabolic rate elevated to +20 and +30 per cent is not unusual, particularly in late cases in which the tremor is marked and extensive.

The occurrence of exophthalmic goiter in children should be mentioned. Although the condition does not occur as often as in adults it is not rare. The disease may not be severe enough to cause loss of weight, but may prevent a consistent gain in weight. The enlargement of the thyroid gland may be so slight as not to attract attention. The diagnosis must often be made from clinical evidences alone, since the most widely used standards for the estimation of the basal metabolic rate may not give a true measure of the status of children. The determination of the effect of iodine may be of great value in these cases. Bruits over the thyroid gland are not definite evidence of exophthalmic goiter since there may be bruits over a vascular colloid goiter. The consistence of the gland in this state is usually much softer than in exophthalmic goiter. Weakness may not be demonstrable. Careful and repeated observation will usually reveal to the examiner some of the definite signs of the disease, particularly stare, characteristic movements, tremor, and hyperemia of the skin. The state of the pulse pressure is of particular value in such cases. The determination of the effect of iodine may offer the most conclusive evidence in this group.

SUMMARY

The early diagnosis of exophthalmic goiter is of great importance, (1) in order to avoid long periods of disability, (2) so that treatment may be instituted at a time when the surgical risk is at its lowest, and (3) to prevent the serious and permanent after-effects of the disease.

ENCEPHALITIS IN CHILDHOOD*

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DETROIT, MICHIGAN

It has been matter of comment in many of the large pediatric clinics in recent years that the number of cases with severe encephalitic or meningo-encephalitic symptoms is very much increased. These cases offer a considerable problem, on account both of difficulty in differential diagnosis, and of the potentiality of grave after-effects from any form of true encephalitis. We are all familiar by now with the sad story of epidemic encephalitis, its many fatalities and its unfortunate sequels in the form of spastic paralyzes, Parkinsonian syndromes, arrested development or imbecility, epileptiform states, and remarkable behavior changes coming on sometimes long after apparent recovery; which make it one of the most to be dreaded of all the diseases with which we deal. This disease, which was epidemic for a time shortly after the war, seems still to be with us in an endemic form, and accounts for a moderate proportion of the cases which trouble us. Another infectious type, more highly fatal, and more sure to be followed by serious effects in non-fatal cases, is the hemorrhagic encephalitis, which, fortunately not very common, has been observed in most of the clinics. A meningo-encephalitic picture resulting from extension of middle-ear or mastoid infection in young children seems to have been observed more often in recent years than formerly. A true infectious encephalitis associated with or following close upon such infections as measles, mumps and chicken-pox, seems to be definitely more common than it used to be—possibly because these diseases predispose to infection with the virus of the epidemic form, for which it would seem that there must be many carriers. This type acts very much like the mild cases of the epidemic form, in that it is often recognized only by its sequels.

We are beginning to realize that careful history taking will often bring to light an apparently insignificant illness in the early months of life which may well have been the cause of an existent spastic paralysis and mental deterioration rather than the birth injury which we should otherwise suspect; while in the older child similar paralyzes or startling behavior changes may be traced back to a like, apparently trifling cause. These forms, all true infections of the encephalon, make up a considerable, but not the greater pro-

portion of the group of cases which I wish to consider. The larger part consists of varying manifestations of the symptom-complex variously known as "serous meningitis," "wet brain," meningismus," or "toxic encephalitis" or "meningo-encephalitis." "Wet brain" or cerebral edema is perhaps really the best designation for these, as the varying symptom-complex seems to depend upon an edema, localized or general, of the brain and its meninges, due to circulating toxins of various infections. These conditions have long been recognized. They range from the temporary convulsive or comatose states of beginning otitis media or pneumonia or other acute infections to prolonged and alarming cerebral disturbance in such diseases as pyelitis. A group of toxic cases of another kind is to be added to these: viz., the lead encephalitis which has been a number of times observed in babies who gnaw the paint off beds, etc.

There is no doubt, I think, that these forms of "toxic encephalitis" are engaging our attention much more now than formerly. This is, of course, due partly to anxiety over possible true encephalitis, and our desire to make accurate differential diagnoses and correct prognoses. I am sure, however, that the conditions are actually more common. There is no obvious reason for this, and we can only assume some unexplained change in prevalent types of infection.

As I have intimated, our main interest in these toxic forms lies in the questions of differential diagnosis, and here we have to consider not only the types of true infectious encephalitis, but the different meningitides, especially the tubercular and luetic, as well as those due to pyogenic organisms; and the cerebral type of poliomyelitis. So far as symptomatology goes we have no very definite criterion. When meningeal irritation is a prominent feature the resemblance to meningitis is very close; while when the en-

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cephalon is chiefly involved we have a very definite encephalitic picture. In infants and young children the involvement of the cranial nerves so striking in epidemic encephalitis, is not so readily observed. The character of accompanying infections has an important bearing on diagnosis and prognosis. In the presence of pneumonia, otitis media, tonsillitis, and pyelitis, symptoms of cerebral involvement, especially if they appear early, are likely to be toxic, though pyogenic meningitis must always be kept in mind. Usually, in these diseases the early cerebral manifestations disappear rather quickly, though in pyelitis, which seems especially prone to cause severe disturbance, amounting at times to prolonged coma, it is not uncommon to see them subside slowly as the primary infection clears. The late appearance of cerebral symptoms in or after chicken-pox, mumps, measles, or sometimes whooping cough, is more likely to be indicative of a true infection of the encephalon, as are the mental degeneration and character changes appearing after apparently insignificant brief illness.

Ordinarily, of course, our main diagnostic reliance is a study of the cerebrospinal fluid. Unfortunately, it is often a broken reed. Cultures positive for the meningococcus or other pyogenic bacteria, the finding of tubercle bacilli, or a positive Wassermann test, are of course diagnostic for meningitis. The hemorrhagic encephalitis has a bloody fluid with high cell counts. The cell count ordinarily is ambiguous. At first we supposed that high cell counts implied definite infection; but we have observed counts running into the hundreds, and sometimes into the thousands in cases quite obviously dependent on such a primary infection as pyelitis and clearing entirely as it improved. On the other hand epidemic encephalitis has characteristically a low cell count. Sugar determinations have not helped us in differentiating toxic from true encephalitis, though they are of use at times in distinguishing from tubercular meningitis. The sugar content in encephalitis is likely to be rather high, while in the meningitides it is below the average, and in tubercular meningitis becomes progressively lower. The results of globulin tests have been with us very inconclusive. They are more generally positive in true infections. We have not made routine studies of the chlorides.

Blood counts also are unreliable. In toxic encephalitis the count is determined

by the character of the primary infection, and has a wide range. True encephalitis and poliomyelitis show a moderate leucocytosis. Tubercular meningitis may have a low count, but leucocytosis in early stages is common. The pyogenic meningitides have moderate to high white counts.

Eye ground examinations have a certain value, especially in the occasional case where there is strong suggestion of tumor. We have had a few where the distinction was very difficult, and at least two where all of us were wrong. As between the types of encephalitis there seems to be no definite distinction, but true choked disk and atrophy are not characteristic of the encephalitic picture.

It is still a question with us whether on the one hand true cranial nerve palsies, even though temporary, are more indicative of a true infectious process, and on the other hand, whether permanent damage, such as spastic paralyses, may result from a prolonged toxic syndrome. My personal opinion is that the temporary palsies may accompany toxic forms; but so far I still believe that permanent effects are due only to true infections.

On the whole, it seems to me that we still have no absolute criteria for differential diagnosis between true infections and toxic forms, nor between either of these and the cerebral type of poliomyelitis except microscopic examination of autopsy material. The presence of some one of the infections likely to cause encephalitic symptoms favors the toxic diagnosis: the absence of discoverable foci inclines toward true infection. Severe symptoms of brief duration are more commonly toxic. Looking backward: complete disappearance of all symptoms is more likely in toxic forms, while residual paralyses, behavior changes, etc., indicate an antecedent true infection, even though unrecognized at the time. Season and the presence of epidemics are important in distinguishing poliomyelitis and encephalitis.

I am sorry to offer no definite treatment. Some things, such as salicylates, have been recommended as routine, but reported cases show no real benefit from them. Logically, one should try to minimize intracranial pressure. This can be done by judicious spinal taps, and by hypertonic intravenous injections. In this connection I might say that with our present very free administration of fluids interstitially and intravenously, we may occasionally, if they are not hypertonic,

bring on symptoms of cerebral edema which might lead us to suppose that the patient had developed an encephalitic syndrome in the course of his primary illness.

I have presented this paper mainly to emphasize the frequency and potential gravity of these conditions; and the need for very guarded prognosis in doubtful cases.

DISCUSSION

Dr. David Levy (Detroit): There is very little to add to what Dr. Cooley has said. I merely want to make a point, and that is to crystallize this entity of encephalitis. The term "encephalitis" and particularly the term "toxic encephalitis" are loosely used. I find "encephalitis" is a term used by many men to describe a more accurate knowledge or lack of a more accurate knowledge of what is transpiring in the central nervous system, or the brain. Very frequently we find a diagnosis of encephalitis made because it covers the symptoms, whereas it might have been a diagnosis of brain tumor, brain abscess, poliomyelitis, or tuberculous meningitis.

There is no question that we see these insidious things developing following the apparently minor infections, and it is important to note the fact that the earlier the things occur, the graver is the prognosis. That is to say, the encephalitis of early infancy is most likely to be followed by a dementing change.

A few days ago I had a child of sixteen months which had a perfectly normal history up to six months. At that time it had minor puerperal infection, and since then has made no mental development whatsoever. Of course, the diagnosis is a difficult thing. It is hard to diagnose the deficiency in any child under six months of age. Maybe this was some congenital thing. With such history, as the child having held itself erect at the proper age and sat up, a minor infection having occurred and a subsequent dementing process, it is obvious that something cerebrally occurred at that time.

There was another sad case in which there is the same story, at a little more advanced age than the case I mentioned. The youngster had apparently a minor infection, followed by mucus. The prognosis in regard to these things is bad, according to the age they occur. The earlier the age they occur, the worse, in my opinion, is the prognosis. It is a highly important thing about the subject of encephalitis, because it does occur. Sometimes it is an easy diagnosis to hide behind to the detriment of the patient.

Dr. John P. Parsons (Ann Arbor): I am very glad someone else brings up the point that high cell count is not indicative. I recall a case we had in the ward of a cell count of 2,000. All the patient had was local inflammation of the auris. Dr. Cowey was insistent that we leave the patient alone.

There is one other question I do want to ask Dr. Cooley; perhaps I misunderstood. Is a low spinal sugar indicative of meningococcus? We have taught that, but at the present time we feel that is not true. The last two cases of meningococcus came in rather late, probably the end of the first week. Both had a low blood sugar, as low as .02.

Dr. William S. O'Donnell (Detroit): To bring out Dr. Cooley's point about cerebral edema following the giving of large amounts of fluid, I had a case of very severe diarrhea, in which we used intravenous glucose, 10 per cent, and saline under the skin. After having the case in the hospital five or six days, I noticed the child was losing its sight. I observed it did not notice anybody. The sickness was a little more severe. The child was doing fairly well; had a temperature equal to otitis media. The child was developing something definitely cerebral, although the coma was not the cause of this. I talked the matter over with Dr. Cooley, and he suggested that we were pushing the fluids, and it may possibly have cerebral edema. I had been giving 10 per cent glucose, and I discontinued the saline, and started giving 20 per cent of concentrated glucose with the idea of dehydrating. One tube of 200 c.c. injection of glucose very definitely changed, and brought out this point that forcing fluids too much will cause cerebral edema. The child has gone home entirely well. There is no doubt that for a period of three days the child was not noticing anybody. That is the most striking thing I noticed about the diagnosis; the children do not notice the parents. Whereas they noticed them before, they did not later on.

Dr. T. B. Cooley (Closing the Discussion): Dr. Levy brought up the point that is of a great deal of importance. I am inclined to think that his observation is correct, that the gravity of the after-effect of the child is more or less in proportion to the age of the child.

There is another thing I meant to have mentioned, and that is, I believe early encephalitis is probably accountable for a good many things we have formerly attributed to birth injury or to other congenital conditions, things like definite mental backwardness, certain types of paralysis, and so forth. We have thought, since we began studying this question, that we could trace those back to acute illness in early infancy rather than to birth.

Another thing is the epileptiform. They do not have to result from birth injuries, and I think quite a few are as a result of early encephalitis.

Dr. Levy asked me what I thought about the possibility of the elimination of hexamethylen into the spinal canal having anything to do with the development of the encephalitic state in the pyelitis—with the clearing up. I have no observations that have any bearing on that subject. Most of our patients do not get hexamethylen anyway, and I do not remember seeing any of these cases with the encephalitic syndromes which have had that particular treatment. As a matter of fact, we have not tried it. So I cannot answer that.

Dr. Parsons asked about low sugar spinal fluid. I think it is fair to say that in our cases most of the patients who have shown definitely low sugar as compared with blood sugar have been cases of tuberculous meningitis. We have had other cases. I could not say offhand just which they were. We have had one or two cases of meningitis where the sugar was temporarily low, but I think the lowering of the sugar over a considerable period almost always refers to tuberculous meningitis.

WHAT ABOUT CHRONIC APPENDICITIS?*

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The title of my talk is presented in the form of an interrogation to express the doubt existing in the minds of many as to whether there is any such clinical entity as "chronic appendicitis." Some have called it a myth; others, a misnomer; others still have refused to class it with inflammations or infections, either pathological or clinical. One medical cynic has gone so far as to divide appendicitis into two classes:—"Acute appendicitis and appendicitis for revenue only."

Diametrically opposing views are held by medical men of equally wide standing and experience. Most of these divergencies can be explained by failure to agree upon questions of terminology. Some are dependent upon disappointments in diagnosis. Now and then debate centers around the pathological findings. On the one hand there are surgeons like Whiteford (of Plymouth, England) who assert that the symptoms are not properly interpreted, that the microscope is not to be trusted, that the complaints always persist, that the actual admission of such a condition as a "chronic appendix" produces a looseness of thought on the part of the profession and a loss of faith on the part of the laity, and that "the operation should be abandoned." On the contrary Eastman believes that chronic appendicitis is a clear-cut disease, and no myth; that it exhibits characteristic pathology, that its symptoms though complex are reliable and that removal of the appendix brings cure. Deaver boldly states that "chronic appendicitis is probably the most common of all abdominal diseases," and that, "it is rare for an adult to possess an appendix that is normal in every respect." Agreeing in general, Gaither, an internist, concludes that "chronic appendicitis is a distinct, widespread, often unrecognized malady," to be thought of in every case of abdominal disorder.

Pathologically the case has been stated by Aschoff: there is no such condition as an original chronic inflammation of the appendix and what seems to constitute this affection is a left-over from previous acute inflammations. He found a diseased appendix in 75 per cent of all cases examined. By certain observers these laboratory considerations are regarded as purely academic. "Pathologically," in the words of Watkins, "the

chronic appendix is an end result and not an active process."

My personal position lies in the mid-ground between the extremes of those whose opinions I have just outlined. Undoubtedly there is a clinical manifestation produced by a continuing process in the vermiform appendix, no matter what its origin, pathology or signs. If the word "chronic" means anything at all, it signifies of long duration and here it may imply either constant symptoms or recurrent paroxysms. Much confusion has come from different phases of the condition being grouped under one head. In general there are three types which are classed as chronic appendicitis: (a) resulting from an acute appendicitis, arising in one attack and going on as a chronic affection with no other acute attack; (b) existing as repeated attacks of mild type at more or less frequent intervals; (c) running a chronic course from the beginning without acute attacks. The first two are referred to by many observers as "relapsing" or "recurrent"; the third type is the variety whose symptoms are most vague and whose existence has been questioned.

It is quite impossible to lay out any detailed *symptomatology*—there is none. For the most part the patients suffer from "stomach trouble," pain, gas pressure and indigestion. This syndrome was strikingly referred to as "appendicular dyspepsia" by Longuet who first described it in 1902. He attributed the symptoms to three types of derangement: mechanical interference with the intestine, due to stasis; reflex disturbances, seen chiefly in pyloric spasm; toxic absorption from the appendix, exhibited in the general systemic signs. The third item would not obtain in the fibrous, obliterative variety.

There is sufficient evidence, however, to show that the appendix is often the focus of disease manifesting itself in other parts of the body. The tonsils and the teeth have held the boards rather conspicuously.

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Some years ago I proposed an alliterative slogan of homely nature to cover additional foci. I suggested the three T's—Teeth, Tonsils, Tummy. The latter means the abdominal cavity and includes the appendix, the gallbladder, the prostate in men, the pelvic organs in women, the kidney and the intestinal canal. The vermiform appendix as a primary focus has not been given due attention. Cases of cure of chronic arthritis, neuritis, and other allied affections following appendectomy are being reported, when the appendix was often not suspected until an acute flare-up occurred. This leads to the assertion, which I have insisted upon repeating in season and out, that in appendicitis the attack is not the disease, but only a knock at the door; that the condition is a continuing pathological process, a "going concern," producing its damage between times and always diseased before an attack can occur. This must be assumed from observations made when operating for acute appendicitis, where within a few hours after the initial pain there are found perforation with gangrene and adhesions—and yet no history of a previous attack. All of which could hardly have happened in six hours or even overnight. Obviously in such instances the appendix had been the seat of disease for a period of time, even though little or no clinical signs existed—certainly not of a localized character.

If one should demand, then, an orderly array of symptoms attached to the condition called chronic appendicitis, it would be impossible to supply them. Special considerations must be given to the protean character of the complaints, to their irregularity as compared with signs of other abdominal affections. I am conscious of no more perplexing *diagnosis* in the realm of medicine. It can be made intelligently and honestly only by a process of exclusion, by ruling out all complicating elements, and finally indicting the appendix upon the clearest circumstantial evidence. It must be held innocent until proved guilty. A complete and discerning history is the first step. The talent of a detective is needed to uncover the memory of a long-ago forgotten attack or the possibility of vague abdominal symptoms in childhood leading to an unsuspected early infection of the appendix. Physical examination is concerned chiefly with a study of the abdominal reflexes; with a realization that the disease is most often where the pain is not and that pressure-

tenderness is extremely unreliable. There are a number of so-called "signs"—I have listed fourteen, to be exact—which may or may not be helpful. Their interpretation unfortunately depends too much on the personal equation both of examiner and patient. Pain, either subjective or objective, in the right iliac region alone raises a presumption against chronic appendicitis. Special examinations are indicated: the eyes, the nose and throat, the stomach contents, the blood, the stools, the urine,—all should be investigated. The cystoscope may be needed. The value of a thorough roentgenological survey cannot be questioned. Its aid, however, is more in the way of furnishing indirect, rather than direct, information. A flat film is needed to exclude calculi in the urinary tract, while the routine use of an opaque medium is of assistance in elucidating other gastro-intestinal lesions. My policy is to regard the roentgenologist as a consultant along with the internist and the surgeon. It will not be necessary here to go into the details of differential diagnosis. Suffice it to say that it is vital to rule out every possible source of the symptoms or to admit any other factor which may co-exist.

Every case of so-called "chronic appendicitis" should be studied in the light of its effect upon the whole human mechanism. Outside of its role in focal infections some consideration should be given to its involvement in certain forms of colitis. Mueller has suggested that frequently recurring, often insignificant, attacks lead to a round-cell infiltration of the appendical wall, which seldom is recognized by the naked eye; but, if the lumen is blocked and drainage interfered with, the usual symptoms occur, absorption of toxic products takes place, and there may supervene the various signs of general intoxication—headache, dizziness, neuralgia, etc. Boas, the internist, refers to the part played by the cecum and the autonomic nervous system in relation to the clinical picture of chronic appendicitis. He admits "that every case of chronic appendicitis was at some time preceded by an acute forerunner" and confesses "that chronic appendicitis is not a pleasant disease either for the surgeon or the internist, because we are not masters of the situation." Haberer, the surgeon, agrees largely with the foregoing, emphasizing the conception that many cases of chronic appendicitis fur-

nish a "part of a genuine colitis, either as cause or effect" and that the condition "actually may be accompanied by chronic appendicitis." Very earnestly he deprecates the rushing in to operate in such cases. "Finally," says Haberer, "there also belong to this group the cases in which the appendectomy is the first step to multiple laparotomies, of which every one, especially the first, had better be omitted." He coins the term "abdominal polypragmasia" as the suitable designation of the practice to which these willing victims are subjected. I join heartily in the choice of the term and in the condemnation of those who perform operations for the removal of the appendix upon hastily considered judgment and incompletely determined data.

Well, what are we going to do about

chronic appendicitis? The answer is, diagnose it. It makes no difference what we call the condition or whether we admit its existence at all, the problem, in Connell's words, "deserves serious study before and not after removal of the so-called 'chronic appendix'". The important warning is to keep away from the fetish of "pain in the side." Looking upon the appendix as a focus of infection is enlightening. One should never fail to give the patient the benefit of removal when the appendix is guilty beyond a reasonable doubt; but we must remember that appendicitis sometimes exists in the imagination of the patient as well as in the head of the surgeon. If the diseased appendix is actually in the belly of the patient, out it should come. "An empty house is better than a poor tenant."

THE FOOT AND THE SHOE

Alfred J. Buka, Pittsburgh, asserts that the shoe must be so constructed that it will meet the hard surfaces on which the pedestrian is compelled to walk. Nevertheless, such a shoe must have a certain flexibility and resilience which shall conform somewhat with that of the foot. Soft leathers are not advocated for service and correct wear. A shoe constructed from vici kid or similar soft leather uppers is not recommended. It loses its contour too readily and does not protect the foot against the hard knocks and bumps of ordinary use. A shoe need not adapt itself to the foot, although soft leathers do this. The shoe built of such leather becomes unsightly and does not afford any upper protection. Corrections which may be required for bad feet are to be applied to a common type of shoe which, in every detail, is considered as being built in the nearest conformity with the foot and with what the natural foot should wear. Calf leather has been used for the construction of the one type of shoe that contributes most to protection and support, combined with comfort and durability. Whatever the shoe may be that is worn, it should always be placed on a shoetree and in a dry place after removal from the foot. Perspiration of the foot is absorbed in the leather of the shoe during wear. The blucher type of upper is used because it helps to pull up the lateral support, which is very much needed for the weak foot and the falling longitudinal arch. It further overcomes binding at the tarsometatarsal articulations. Lateral support is also helped by an extra long counter, which extends almost to the metatarsophalangeal articulation of the great toe. Thus, a tightly fitting adjustment around the longitudinal arch and instep is established. With this particular support and grip there is accomplished what is most to be desired from the upper of any shoe. Close adjustment is brought about through the snug fitting heel by tapering upward the back portion of the counter. Hence the counter at the heel is made a size narrower at the top than at the base. Thus, the shoe is constructed so that when laced there will be practically no pressure anywhere distal to the metatarsophalangeal articulations. This allows for the possibility of freedom of movement of the toes. The inner line of the arch is built so

that it is higher than the outer. Another feature incorporated in the model is the extension sole, a flare-out beyond the usual amount on the outer side of the shoe near the metatarsophalangeal articulation. The purpose of this is to support the increased width of the foot during walking and weight-bearing when the transverse arch drops somewhat. The question as to whether a shoe should be of the oxford or the high-top type is a personal one. The oxford is the shoe of general utility. The ideal heel for shoes should be a broad rubber over leather type. A modified Thomas heel is advocated in cases with painful dropping longitudinal arches. In the case of the woman's shoe, the height of the heel should be from $1\frac{1}{4}$ to $1\frac{3}{4}$ inches. In the man's shoe the height should be from 1 inch to $1\frac{3}{8}$ inches. As most shoes are fit "short," in measuring a foot for shoeing an allowance of from $1\frac{1}{2}$ to $2\frac{1}{2}$ sizes larger should be given to the shoe beyond the actual measurement of the foot during weight bearing. The shape of the shoe is such that in general principle it conforms with the shape of the foot, the inside line being almost a straight line while the outside is a modified swing which most nearly conforms with the swing of the toes. For assurance of ample room at the joint of the great toe, the vamp is cut so that it shall measure a width and a half more than that of the standard width of the shoe, and a half size more through the thickness at the great toe. When laced, this shoe hugs about the os calcis and achilles tendon behind, and does likewise immediately behind the metatarsophalangeal articulations back to about the Chopart joint. The foot should rest in the properly fitted shoe with the feeling that there is support during weight-bearing under the longitudinal arch and a binding feeling with comfort and support around the upper of the shoe over the instep. The foot must fit into the heel of the shoe when laced, so that the upper portion of the counter will grip about the insertion of the achilles tendon firmly, yet comfortably. For the generally correct shoe the principle of wedging the inner or medial aspect of the heel about one-eighth inch has been adopted. This amount of wedging should be continued for ordinary wear at all times.—
Journal A. M. A.

HEREDITARY FACTORS IN EPILEPSY, AS SET FORTH IN A STUDY OF 1,000 CASES

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This paper is not offered as being an exhaustive study of the subject at hand. Much has been written both for and against the idea that there is a recognizable factor of heredity in epilepsy. Extremely disagreeing statements are expressed in the literature. Some say essential epilepsy is strictly a hereditary problem, while others cannot see any such relationship. Some point out the relatively few cases of epilepsy in parent and offspring and the very few cases of its occurrence in even three generations of direct descendents and conclude that heredity is not an essential factor. Others take the stand that it is not required to set up cases of direct inheritance of epilepsy in order to establish the principle of heredity. They believe that certain neuroses are so frequently represented in the antecedents of the epileptic, as to make them as important factors in the heredity as cases of epilepsy itself occurring in ancestors. They believe that a migrainous ancestry portends epilepsy and hence there is a hereditary factor in that respect. Much of the disagreement in conclusion is due to disagreement in premises.

In this study we are not attempting any conclusions, but are offering a statement of finding as shown in the histories of 1,000 cases of epilepsy from the records of the Michigan Farm Colony for Epileptics. We have undertaken to ascertain the occurrence of insanity, feeble-mindedness, and epilepsy in the grandparents, parents, siblings, and collaterals of these 1,000 epileptic persons. We have also included such factors as migraine, alcoholism, and fainting spells, in our tabulations, considering the relations claimed by some for these factors. We have limited this to parents and grandparents however.

Of the 1,000 cases reviewed 443 gave evidence of the existence of one or more of the above enumerated factors. That is 44.3 per cent of the cases have recorded one or more of the evidences to which some students attach significance in determining the role of heredity in this disease.

This percentage is undoubtedly much lower than the real condition is. Our earlier case histories are relatively incomplete and, from personal experience, we realize that oftentimes questions on a printed family history form are not answered seriously, if at all. Personal investigation by a trained agent would, no doubt, put into the histories much of value that is omitted in these cases wherein the family and personal history represents the efforts (more or less conscientious) of

some one member of the family to answer a set of printed questions.

We have not undertaken to pick the cases, however, but have taken them just as set forth in the routine family histories on file in this institution.

1. Epilepsy—Perhaps the outstanding inquiry is, "Is there any other case of epilepsy in your family?", upon the answer to which some are quite inclined to conclude that heredity does or does not play a role in the disease.

In the 443 families represented, epilepsy in the relatives occurred 288 times, with the following distribution: 19 fathers, 24 mothers, 24 grandfathers, 25 grandmothers, 83 siblings, and 113 collaterals (uncles, aunts and cousins). This then shows 92 instances of direct family relationships, as represented by parents and grandparents. The records show five instances wherein there were two epileptic offspring from an epileptic patient and one instance of three epileptic children from an epileptic parent.

There were 13 epileptic sons and nine epileptic daughters from epileptic fathers and 10 epileptic sons and 17 epileptic daughters of epileptic mothers. This agrees with the findings of Gerum that more epileptic sons than epileptic daughters are from epileptic fathers, and more epileptic daughters than epileptic sons are from epileptic mothers.

In this group there were no cases in which both parents were epileptics.

2. Feeble-mindedness — Feeble-mindedness occurred among the parents of these epileptic persons more often than did epilepsy, being present 15 times among the fathers and 44 times among the mothers. This corresponds with the observations of some authors who claim that more epileptic offspring are born to mentally subnormal parents than to epileptic parents. Our study further showed the appearance of feeble-mindedness 36 times among the grandparents and 180 times among the

siblings and collaterals, the total occurrence being 275.

3. **Insanity**—The occurrence of 202 cases of insanity among the ancestry of 443 epileptic persons certainly indicates that mental instability is more marked among the background of these particular persons than would be found in the families of that many so-called normal persons.

Just how much of this condition is reappeared in the form of epilepsy is a matter only for conjecture. It does show, however, that the members of the family of the average epileptic are not as free from mental impairment, as would be found in the background of the same number of normal persons.

4. **Alcoholism**—On the subject of alcoholism as a factor in impaired mentality, many have been set forth both attesting to and discrediting its significance. The findings of certain writers on this subject show an increased number of defective offspring born to intemperate parents over those offspring born to the more temperate type. These studies further tend to show the possibility of mental impairment among the offspring from the mating of alcoholic and neurotic parents. Alcoholism in our study was noted 112 times among the parents and 74 times among the grandparents, making a total of 186 instances in 443 cases or 42 per cent.

5. **Migraine**—The close relationship between migraine and epilepsy has been noted by many writers of articles on epilepsy. It has been declared that five times as many epileptics as feeble-minded offspring are due to matings marked by neurotic traits among which migraine is an important factor and that one migrainous parent is as likely to produce an epileptic offspring as is an epileptic parent.

The question as to whether any members of the family suffered from headache is, for the most part, only half-heartedly answered. Upon further questioning it is very often brought out that one or the other parent, and in some instances both parents, suffer from recurring attacks of migraine. Our figures showed the appearance of migraine 77 times among the parents and 16 times among the grandparents.

6. **Fainting Spells**—The formal "personal and family history" contains an inquiry if any relative is afflicted with "spasms, fainting spells, nervous prostration, hysteria, insanity, blindness, deafness or any other mental or physical defects." It is readily observed that this question is too extensive. It is in the an-

swers to this question that we find the acknowledgment of the occurrence of "fainting spells" among the parents and grandparents 463 times.

We very often encounter people who refer to frank epilepsy as "fainting spells." Also we know that many cases of "fainting spells" are really petit mal seizures. On the other hand there are many cases of "fainting spells" that have no relation whatsoever to epilepsy. In view of this fact, and of the lack of sufficient follow-up study of this detail of our institution histories, we are at a loss even to conjecture the significance of 463 cases of "fainting spells" among the ancestry of our 443 epileptic cases.

We are quite of the opinion, however, that many of these cases should be listed as occurrences of epilepsy in the ancestry and, therefore, that our shown percentage of direct heredity of epilepsy is accordingly too low.

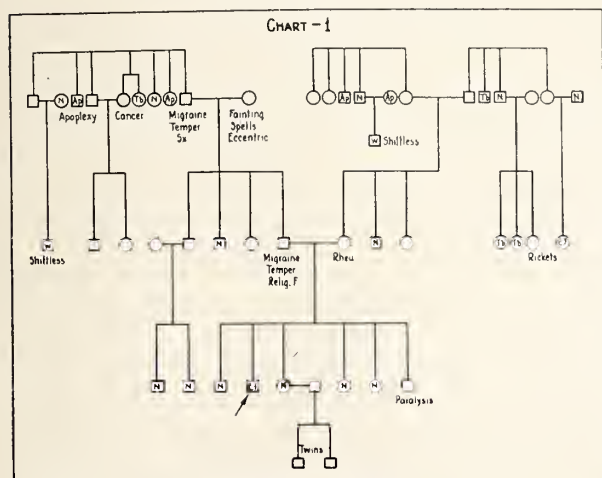
7. **Temperous Outbursts**—Those family histories, wherein we were able to make direct contact with at least one member of the family, upon close questioning, very often disclosed the fact that among the ancestry there were one or more members given to violent outbursts of temper. In some instances several members of each fraternity in consecutive generations would be noted. This is quite nicely illustrated in Chart No. 6 shown in this article. It is our contention that, in many instances, these temperous outbursts are unrecognized symptoms of epilepsy, and that they are too closely related to epilepsy to be dismissed without some question as the probability of their being a hereditary factor.

Musken, in his recent writings, states that some authors have observed that many of their patients give a history of periodic attacks of psychical discharge such as paroxysms of rage which, in his opinion, constituted the fit. These attacks, for the most part, disappeared upon the establishment of recognized epilepsy.

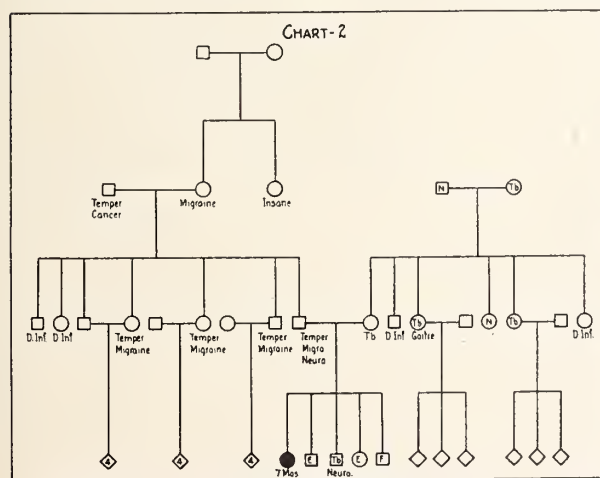
Our data, relating to the occurrence of temperous outbursts, were too indefinite to be of value. In most instances it was charged to the father and paternal grandfather. The monopoly which the paternal side of the family seems to have on ill temper may be explained by the fact that, in the large majority of cases, the family histories are furnished by the mothers.

After having gone into the generalities of the study as shown by the tables, it is rather interesting to go into the family

histories of some of these epileptic patients, illustrating various combinations of what we have styled hereditary taints or factors and bringing out the possible consequences, as shown in the following ancestral charts.



This patient, while coming from a family which would ordinarily be considered as above the average in industry, capability, and mentality, shows a very decided hereditary element, and one which practically portends epilepsy. It is to be noted that the father is given to outbursts of temper; is afflicted with migraine, and is a religious fanatic. The father's mother is noted to be eccentric and subject to fainting spells. The father's father manifested high type migraine and was considered

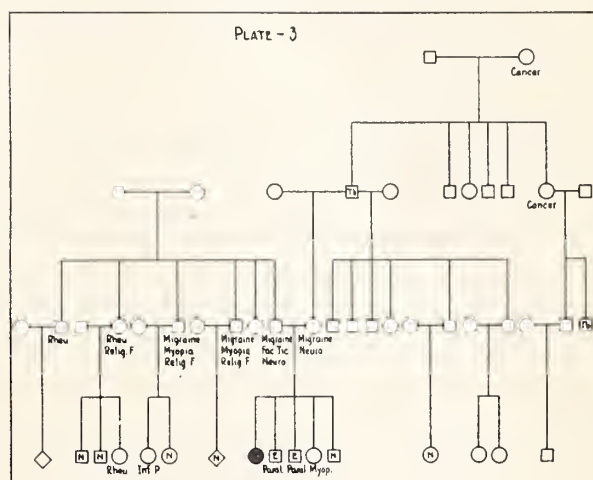


sexually delinquent. A sister of the paternal grandfather had twin children, one of whom died of convulsions. There was also an impression of shiftlessness in another member of the family. The patient's mother is afflicted with rheumatism and comes from ancestry showing eccentricity and asocial traits; much tuberculosis; one

case of feeble-minded epilepsy, and at least one case of shiftlessness.

Dr. Week's statement that neurotic ancestry is five times as likely to produce epileptic offspring as it is to produce feeble-minded offspring, is nicely illustrated by this chart, showing neurotic traits brought together and culminating in epilepsy.

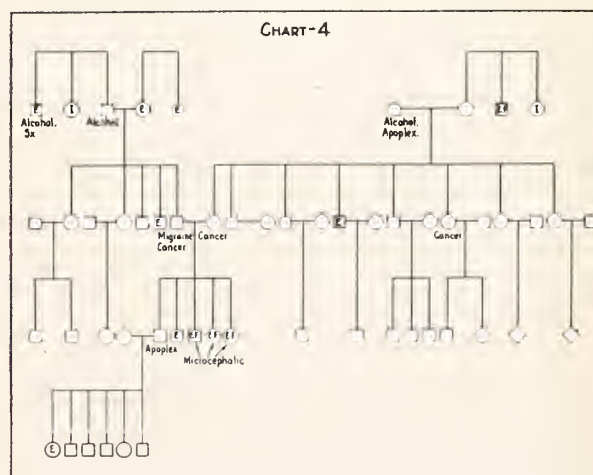
This family history shows the bringing together of a family (paternal) character-



ized by neurotic features, particularly explosive temper manifestations and the occurrence of migraine, with a family (maternal) featuring much tuberculosis, constituting a definitely depleted stock.

The product of this combination is represented by one miscarriage; one epileptic son; another son probably tuberculous; one epileptic daughter, and one feeble-minded son.

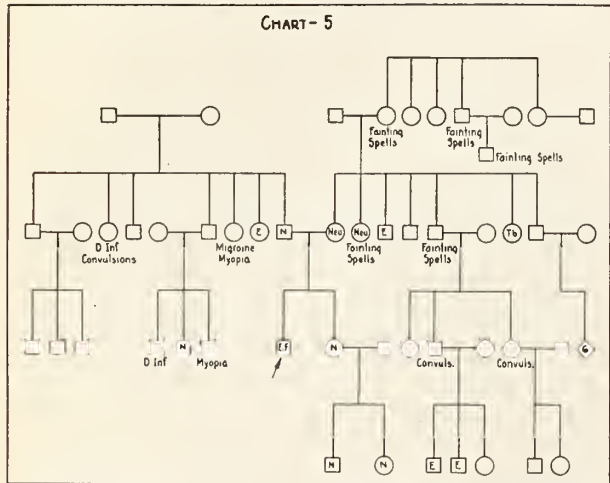
While this chart does not show, in any



instance, direct inheritance of epilepsy, it is our contention that it does exemplify a very specific hereditary principle, and that it particularly illustrates the fact that a

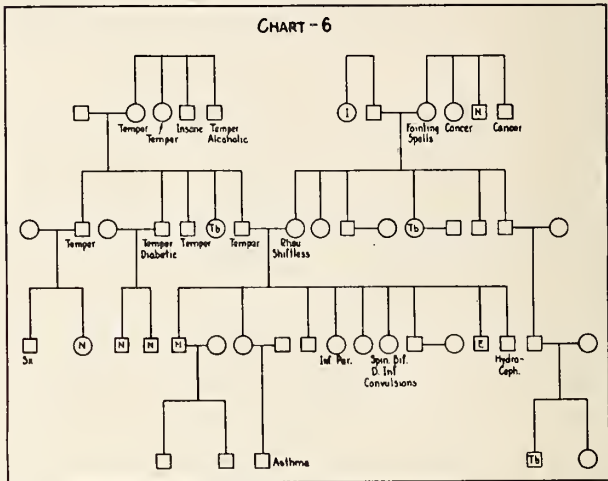
neurotic ancestry is conducive to epilepsy, especially when combined with a family whose stock is, though not necessarily neurotic, weakened or depleted by chronic ailments such as, in this case, tuberculosis. Portrays a family (paternal) wherein much migraine, myopia, and religious fervor is shown and a maternal family showing tuberculosis, migraine, and myopia. The bringing together of members of these two families in this particular instance resulted in one still birth; one epileptic son; one son who is both physically and mentally defective, and one daughter who suffers from myopia.

This chart shows the ancestry of three epileptic patients of one family, each of whom is also microcephalic. The maternal family featured alcoholism, epilepsy, feeble-mindedness, and insanity. The paternal ancestry showed alcoholism, epilepsy, sexual delinquency, temper, and insanity.



The history of this patient shows us a family where the mother is noted to have strong neurotic tendencies. Occurrence of fainting spells is noted in five instances. Epilepsy, feeble-mindedness, hysteria, tuberculosis, and convulsions in early childhood are also in evidence. The paternal family features migraine, myopia, convulsions in childhood, and epilepsy. The mating of two people from such definitely

depleted stock, as in this instance, resulted in a feeble-minded epileptic offspring.



In this particular family manifestations of violent temper is the dominating factor in the paternal family. Alcoholism, insanity, sexual delinquency, and family desertion are also noted. The maternal family is characterized as being the shiftless, ne'er-do-well type, featuring feeble-mindedness, fainting spells, shiftlessness, and much tuberculosis. The product of this combination, in this particular instance, being one child born with a spinal bifida, who died of convulsions soon after birth; one other child who died in infancy of a condition resembling hydrocephalus; one child physically deformed, and one epileptic son of the most vicious, irresponsible type.

TABLE SHOWING HEREDITARY FACTORS IN RELATION TO 443 EPILEPTIC PERSONS

	Epilepsy	Feeble-minded	Insanity	Sub. Total	Alcoholism	Migraine	Fainting Spells	Sub. Total	Grand Total
Father	19	15	17	51	104	11	176	291	342
Mother	24	44	17	85	8	65	184	258	343
Paternal Grand-father	11	12	17	40	47	0	53	100	140
Paternal Grand-mother	8	4	9	21	0	3	3	6	27
Maternal Grand-father	13	3	9	25	23	0	27	50	75
Maternal Grand-mother	17	17	9	43	4	13	20	37	80
Siblings	83	75	33	191					191
Collaterals	113	105	91	309					309
Totals	288	275	202	765	186	93	463	742	1507

DOCTORS TRY TO MEASURE INVISIBLE ORGANISM

An attempt to measure the world's tiniest living organism has been made by two St. Louis scientists, Drs. D. M. Hetler and Jacques Bronfenbrenner of the Washington University School of Medicine. This organism is the bacteriophage, potent destroyer of bacteria. It is so small that it cannot be seen even with the aid of the most powerful microscope known to modern science. The radius of the average size particle of the phage is

approximately one four-millionth of an inch, the two scientists calculated. Even this infinitesimal particle may not be the smallest unit of the phage but may serve as a carrier for still smaller ones. The germ of typhoid fever, which can be seen under the microscope, is about six times as large. Some scientists do not think the bacteriophage is a living organism, but whether animate or inanimate, it is so small as to be almost beyond the conception of man.—Science Service.

THE TREATMENT OF CARCINOMA OF THE BREAST*

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Within recent years we have learned that carcinoma of the breast is not the simple disease that we had previously supposed it to be. Probably because of its superficial location we have taken the attitude that its treatment is comparatively easy. A more careful analysis of groups of cases, however, indicates that carcinoma of the breast like carcinoma in other locations must be considered as a serious and complicated disease and that in any case the choice of therapeutic procedure must be strictly individualized while our armamentarium must include every available method of proved value.

The results which may be obtained in the treatment of cancer of the breast as of malignant conditions in other locations depend upon the following factors:—(1) The age of the patient; (2) the duration of the disease; (3) the extent of involvement; and (4) the type of the neoplasm.

It is generally known that young women succumb to cancer of the breast sooner than elderly women especially if the neoplasm develops in a lactating breast. The second two factors, namely, the duration of the disease and the extent of involvement are usually intimately related and suggest the question, "When is a cancer of the breast operable?" There are widely different opinions as to this point as is shown by the fact that reports in the literature of the results of radical operation show from 15 to 50 per cent of five year survivals. Such a wide variation as this indicates that the important factor is the selection of cases to be operated upon, a factor which of course depends upon the judgment and experience of the individual surgeon. Unfortunately we have no generally accepted grouping for cancer of the breast, such for example, as that adopted for carcinoma of the cervix though several classifications have been suggested.

Classification according to cell type and tissue reaction would apparently be satisfactory in some instances but there is considerable disagreement among the pathologists who, in fact, seldom can agree upon the exact status even of a particular specimen.

Since the diagnosis of cancer of the breast is not difficult, little need be said about it. When a physician is consulted by a patient with a tumor in

the mammary gland, he should assume that the condition is malignant until it is proven otherwise. "Watchful waiting for the classical text-book picture of cancer of the breast is an admission not only that the physician does not understand good practice and has no diagnostic acumen but it is unjustifiable procrastination. In case of doubt the patient should either be referred to someone of greater experience or a biopsy should be made at once. It is certainly better practice to remove a piece of tissue and wait for a pathologist's diagnosis than to allow a tumor to grow in the breast for several weeks or months.

When a tumor of the breast has been found to be malignant what advice should be given to the patient? Undoubtedly, except in advanced cases, the radical operation should be performed immediately. The radical operation as advocated by Halsted in 1897 should be a routine procedure since it has been proven by statistical studies that prior to the general adoption of this method only 26.5 per cent of patients with carcinoma of the breast survived for a three year period while since this method has been generally employed the average number of three year survivals has been about 38 per cent.

It would appear that the majority of surgeons do not realize that carcinoma of the breast is not a local disease and therefore an incomplete operation is sometimes performed. Of course in its incipency carcinoma of the breast is a localized process, but in over 95 per cent of the total number of cases which come to the physician it has already metastasized to other areas in the mammary gland itself and to the axilla. The fact that cancer of the breast often extends into the breast area far beyond the original localized tumor has been well demonstrated by Dr. Wainwright, who has made serial cross-sections of the entire breast area. His study shows that a malignant growth is rarely a single nodule but

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that the whole mammary area is usually infiltrated with multiple tiny malignant areas many of which seem to be entirely independent of the primary tumor or of each other. It would appear that extension of the primary growth takes place not only through the larger lymphatic channels but also along the tissue planes.

Another reason for not assuming that a malignant tumor of the breast is a localized process is the fact that statistical studies prove that in less than 5 per cent of all cases is there no microscopic axillary involvement. If there are axillary metastases in such a large percentage of cases there must be a fairly large number in which there is also supraclavicular involvement though the exact percentage cannot be determined since surgeons seldom operate in this area. Moreover, Handley has shown that not infrequently the parasternal lymph nodes are involved fairly early in the disease and he has adopted a technic for radium implants in these areas.

It is, therefore, unsafe for a surgeon to look upon a malignant tumor of the breast as a local process; he should rather consider it as a generalized disease of the chest wall and shoulder girdle and should plan his therapeutic procedures accordingly.

If he bears in mind the fact that carcinoma of the breast is a wide-spread disease no surgeon will assume that he can in every case eradicate all malignant cells from the breast area and from the axilla by any operative method. It is probable indeed that some malignant cells remain after almost every operation for cancer of the breast. In many instances these cells are subsequently destroyed as the result of their lessened blood supply or because of resisting influences of the host or they may lie dormant for long periods of time. That malignant cells do lie inactive for long periods is proved by the very late recurrences and metastases, which frequently occur.

Although surgeons have been obtaining more satisfactory results since the radical operation came into general use they also realize that with this procedure they have reached the limit of the amount of tissue which can be removed. Certain technical maneuvers such as the use of the various types of cautery are sometimes advocated in the hope that thereby blood and lymph vessels may be sealed and malignant cells hemmed in, but with these methods no more involved tissue can be removed than with the scalpel.

In studying the effects of treatment of any disease, and especially of malignant disease, it is necessary to know something about the natural history of the process and what may be expected when a patient receives no treatment whatever. This can be accomplished only by studying large groups of cases from various sources.

In the case of cancer of the breast statistics show that the average period of life in untreated cases is three years. The value of different methods of treatment should be studied with this three year duration period in mind.

From the examination of many reports in the literature which cover thousands of cases I have found that after operation alone 38.6 per cent of the cases survive for three years and 28.8 per cent for five years. These figures indicate that only slightly more than one-third of the cases of cancer of the breast on which it is possible to operate will remain free of their disease for the period of natural life expectancy.

We know that in a large percentage of cases of carcinoma of the breast the disease is actually rather advanced before the condition is discovered and that it is impossible in most instances to remove all of the neoplastic cells, as is shown by the fact that but few more than thirty-three and one-third per cent of the cases survive the natural life expectancy. It therefore becomes necessary to avail ourselves of some adjunct to surgery as a means of assisting in the destruction of some of this remaining malignant tissue in order that the lives of even a few of our patients may be prolonged. Other than operation, the only procedure which is of recognized value is radiation therapy, the development of which is too recent for it to have become standardized or generally applied. There are some who doubt the benefits of radiation as a routine procedure but a careful analysis of cases must convince one that it certainly assists in reducing the number of recurrences and metastases, and definitely prolongs the lives of a certain number of patients. Those who are skeptical of the benefits of radiation usually base their conclusions on a few cases while others expect that radiation will definitely cure hopeless cases in the treatment of which they themselves have been unsuccessful. Neither these skeptics nor these optimists understand either the usual natural course of the disease or the effects of radiation. The effects of radiation are primarily due to the fact that certain neoplastic cells are more sensitive to the rays,

especially during mitosis than are normal tissues. Adult neoplastic cells and those approaching differentiation are not susceptible. Therefore, we cannot expect that all malignant cells will be completely or permanently influenced by radiation but there is no clinical method whereby to predetermine which cells are sensitive and which are not.

If radiation as an adjunct to surgery is found to improve the results obtained by surgery alone, even in the slightest degree, then no patient should be deprived of its possible benefits. Every surgeon has seen some hopelessly advanced cases of carcinoma of the breast receive definite benefit from radiation. It is only logical to assume that some cases in which the growth is less advanced must receive some benefit. Moreover, the fact must not be overlooked that although some cases may not be definitely cured by radiation we may, nevertheless, in some cases bring about an economic cure as the result of which the patient is able to carry on in comfort and happiness for a long period of time.

Some years ago, after the application of deep X-ray therapy in a series of 74 cases in which this treatment was given post-operatively by the cross-fire method advocated at that time, I observed more early recurrences and metastases than I had previously seen either among cases treated by moderate repeated dosage or among cases treated by surgery alone. A review of our cases which received this intensive radiation showed first year recurrences or metastases in 35.1 per cent of the cases as compared with only 16.5 per cent among the non-radiated cases.

This observation led me to make a comparative study of the results obtained by others using the same method and I found from a number of sources that the average number of first year recurrences and metastases amounted to 44.8 per cent among cases treated by intensive post-operative radiation as compared with only 25 per cent among non-radiated cases.

Since the number of early recurrences and metastases was apparently increased among cases treated by intensive radiation it would appear either that the malignant growth was stimulated or that the resisting influences were destroyed.

It has never been demonstrated that radiation actually stimulates an existing malignant growth but on the contrary it is well known that it either has no effect or produces some degree of de-

struction. It is also obvious that among these cases in which the recurrences and metastases were apparently increased malignant cells must have remained after operation, since the radiation could not induce a neoplasm to develop where none existed previously. It is also apparent that in some cases after operation these residual cells are destroyed subsequently by some resisting influence or may remain inactive for long periods of time, as otherwise the number of recurrences and metastases would be as great in the non-radiated as in the intensively radiated groups. We may be certain therefore not only that radiation has a direct destructive effect upon some malignant cells but that it also may either assist or destroy certain unknown factors which help to eliminate those cells. Because of the evident increase in the number of recurrences and metastases in the cases treated by intensive cross-fire post-operative radiation one must accept it as an indication that this method of treatment is an improper procedure. The application of this technic to such a superficial lesion as a breast would seem to be illogical since the large blood volume in the chest receives such an intensity of radiation that it not only destroys the cellular elements of the blood but also other factors which may help to make up the resisting influences of the patient.

This discussion of the unfavorable consequences of intensive cross-fire post-operative radiation in the treatment of cancer of the breast is not an admission that routine post-operative radiation is not beneficial but is rather a criticism of what I believe to be an improper method of application. It may also emphasize that the choice of technic for radiation is as important as the choice of surgical procedure.

In contrast to the number of first year recurrences which follow intensive radiation is the number of ultimate cases of five year survivals. In the series of cases previously cited the three year survivals amounted to 35.3 per cent for the non-radiated cases and to 47.1 per cent for those which received completed courses of radiation in moderate dosages. Studies of large groups of cases would seem to show that though there may seem to be more early recurrences or metastases among cases which are treated by radiation, nevertheless the number of survivals is greater than among the non-radiated cases. This may be accounted for by the fact that surgeons are prone to refer for radiation only

those less favorable cases in which they are sure that they have not been able to remove all the malignant tissue.

Since studying this problem I have discontinued the use of intensive post-operative radiation by the cross-fire method and have employed repeated moderate doses in an average of three courses. From January, 1924, to January, 1928, we ran two parallel series of cases in one of which the patients received post-operative radiation while in the other no radiation was given. All of these cases were clinically operable and all had axillary metastases. Of the cases which were radiated ten per cent more are free from recurrences or metastases than in the non-radiated group.

In about 15 per cent of patients who come to the surgeon with cancer of the breast the disease is so far advanced that it is impossible to operate upon them with any expectation of beneficial results. Usually these patients have ulcerating tumors and they always have axillary metastases and frequently palpable supraclavicular nodes or distant metastases. There is also a somewhat similar group of cases in which recurrences have developed very rapidly after operation. Radiation is the only possible means for the relief of such patients.

The term radiation applies not only to radiation with the X-ray but also to the use of radium. After the implantation of radium in needles or gold capillaries into and about the tumor, the application of radium packs to palpable distant areas of metastases and the use of judicious courses

of X-ray therapy we are often gratified to observe the relief of the patient and often the complete disappearance of the lesions. Of course the successful treatment of these cases depends upon the sensitiveness of the malignant cells to radiation and I believe this is present in over 25 per cent of the cases. At present I have five such patients who have remained well for more than five years without receiving any other form of treatment. This is a small number, it is true, but it at least indicates the possibility that more cases may secure relief by this treatment.

SUMMARY

Having studied the problems presented by the treatment of carcinoma of the breast on the basis of reviews of the experiences of different operators in large groups of cases, we may conclude:—(1) that the average period of the natural duration of life for a patient with carcinoma of the breast is three years; (2) that as a result of radical operation about 38 per cent of the cases will be free from the disease for the natural duration of life and that the average survivals for five years will amount to about 30 per cent; (3) that intensive cross-fire post-operative radiation is harmful but that as the result of radiation by an appropriate technic we may expect at least ten per cent more patients to survive for five years than among non-radiated cases; (4) that we may expect gratifying results from radiation in some hopelessly advanced cases of carcinoma of the breast.

NEW PERSONALITIES FOR OLD, GOAL OF PSYCHIATRISTS

The chief reason for the existence of psychiatrists lies in their hope of changing unsatisfactory personalities, Dr. Karl A. Menninger of Topeka, Kansas, told members of the American Orthopsychiatric Association at a recent meeting. "If psychiatrists did not think the leopard could change his spots, they would not be in psychiatry," he said. Originally blame for all the evils of mankind was placed on the devil, Dr. Menninger told his audience. Later it was transferred to witches, "original sin", plain "orneryness" and finally to the "solemn theory of responsibility or irresponsibility." In the courts many thousands of dollars are spent annually to determine whether people have responsibility or do not have it. "If they have it they are locked up. If they do not have it they are locked up also," said Dr. Menninger. Orthopsychiatry, the new psychiatry, recognizes no devils but shifts away from these old ideas and principles to give its attention to the whole individual, mind and body. However, before orthopsychiatry can treat personalities that are prone to failure, they must be classified. Dr. Menninger presented his classification which includes seven groups of such personalities. In the

first are people predisposed to failure because of organic disease. They are found by physicians. In the second group are the stupid people, the hypophrenics, who are known to the psychologists. In the third group belongs the isolation personality. These individuals have been denied contact with the outside world because of physical deformity, financial difference or geographical location on lonely farms or outposts of civilization. They are unsocial, not asocial. They are usually discovered by the public. The fourth group, the asocial individuals or schizoids, and the fifth group of moody persons, cycloids, who fail because of incapacity to maintain an even tenor of emotional balance, are found by the psychiatrists. The sixth group contains the neurotics who are unhappy and at a disadvantage because of misdirection in early life. The neurologists and psychoanalysts discover this group. In the seventh classification belongs that ever recurring group of psychopathic personalities. These result more from the environment than from qualities in the individual. Dr. Menninger preferred to call these "orthopathic personalities" or "perverse personalities."—Science Service.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner

LANSING, MICHIGAN

COUNTY HEALTH DEPARTMENTS FOR MICHIGAN

The township system of government has been tried and found wanting in dealing with various modern conditions. It has practically been abandoned in dealing with law enforcement and the detection and prevention of crime, the development of adequate facilities for education, the improvement and maintenance of highways, the reclamation of land, etc.

In spite of the fact that the health of its people is of far greater importance than any material developments, this state until 1927 left the responsibility for health work to a very large extent with the township and incorporated municipality. That progress in such work has taken place under these circumstances speaks more for the efforts of individuals than it does for the antiquated system which has handicapped them.

To be enduring, organized health work should be a part of local government. To be effective, it should have jurisdiction over the largest feasible area, and its personnel should not only devote their whole time to their duties, but should be especially trained for their tasks. The largest unit of local self-government in this country is the county, and health work should be organized on the county as a base. Even a county-wide organization is inadequate in handling certain problems which arise.

The development of improved highways, and the ubiquitous automobile have brought about a condition which is of the greatest importance to public health. Thus, populations of enormous size are constantly on the move. Hundreds of thousands of people cross the borders of this state on errands of business or pleasure. In some of the remote counties of Michigan this transient population is from five to ten times that of the permanent population. Furthermore, the permanent population is constantly traveling. Thus no township or municipality is concerned alone with its own people, counties and even states are vitally concerned with the health of people far removed from their jurisdictions. Michigan has obligations with reference to safeguarding the health both of its residents and of its visitors. The only solution for the problem arising in this connection is adequate health organization. It is imperative that such organization be effected at as early a date as possible.

The last legislature made provisions which will materially aid in the development of whole-time county departments. From this source and from funds granted by the Rockefeller Foundation, subsidies are available which will enable counties to organize health departments.

The physicians of Michigan will be deeply interested in the program for county health departments as it is being developed by Dr. Guy L. Kiefer, State Commissioner of Health. Dr. Kiefer bases his program upon the principle that the functions of a health department lie exclusively in the field of preventive medicine and in the field of health education. All curative measures are primarily individual in character, and therefore are properly the field of those engaged in the practice of medicine. Health departments may be of great indirect assistance to physicians in this field, but actual curative measures lie beyond their proper sphere.

County health work built upon this fundamentally sound basis cannot but prove of the greatest value to a community and to the physicians of the community. Inasmuch as in certain phases, the work of practicing physicians is closely related to the activities of the health department, it is expected that the county medical society will serve in an unofficial advisory capacity to the county department of health.

The program is now being presented to the various counties of Michigan. The first presentation is being made to the county medical societies. If and when the societies officially endorse the plan, it is then presented to the supervisors and to various organizations interested in community betterment. The county supervisors constitute the only legal authority back of the county health departments, and the adoption and maintenance of the plan rest solely with them.

The State Department of Health is ready to aid in this program in several important ways. From the funds available, it is ready to grant a very liberal subsidy to such counties as may adopt this plan. The minimum staff recommended consists of one whole-time health officer, two whole-time public health nurses, and one office assistant. The minimum budget required is \$12,000 annually, of which the State Department of Health subsidies will provide

\$5,500. This leaves a balance of \$6,500 to be provided by the supervisors.

It is of fundamental importance that the personnel of these county health departments be especially trained for their duties. The State Department of Health is providing facilities for giving the preliminary training required.

It is of importance also that there be developed some degree of uniformity of programs among these county health departments, and that they be so linked up that in times of necessity prompt and simultaneous action may be taken throughout the state. The State Department of Health is therefore providing for a system of co-ordinating these activities.

The program is one that it is believed every physician in the state can heartily endorse. Most of the societies to which it has thus far been presented have taken official action, and the members of these various societies are urging upon their supervisors its adoption. The success which has attended the work of county departments of health in other states has removed any element of experimentation that might be attached to a new development. The program is rightly considered by those who have studied its possibilities carefully to be one of the most progressive measures as yet undertaken by the State Health Department in Michigan.

M. E. B.

DIPHTHERIA PROTECTION IN MACOMB COUNTY

Organization work for an intensive diphtheria protection program is being carried on in Macomb County by local health and school authorities assisted by a representative of the Michigan Department of Health. Administration of the toxin-antitoxin will be done by local physicians. Macomb County is one of the eight counties in the state having the highest diphtheria death rates, so that especial interest attaches to the effort to improve the county's record.

The campaign is being planned by townships, with intensive educational work reaching all organized groups. It is hoped that a large percentage of preschool children may be immunized.

INSPECTING SUMMER RESORTS

Sewage disposal and milk supplies are the two items in summer resort sanitation in Michigan that need the most attention, according to a preliminary analysis of the records of 200 of the 1,531 resort inspections made by representatives of the Bu-

reau of Engineering during the past summer. Bathing beaches were found generally satisfactory.

Seven items were checked upon by the six inspectors assigned to the six districts into which the state was divided for this work. These items were water supplies, sewage disposal, garbage and rubbish disposal, the milk supply, the camp site, food handling, and the bathing beach. An arbitrary system of grading was adopted giving to water supplies 20 points, to sewage disposal 20 points, and to milk supplies 20 points. All the other items received 10 points each, and the whole score was 100 points.

Seventy-one counties located in both upper and lower peninsulas were included in the summer resort inspection program. A total of 1,531 resorts were visited. The 70 inspections that were made in the Upper Peninsula necessitated 4,000 miles of travel.

A more complete report of all findings will be made later.

COURSE IN APPLIED HYGIENE FOR COUNTY NORMALS

The series of lectures on applied hygiene that was given by Department representatives to 35 of the county normal training classes last year, in co-operation with the Department of Public Instruction, will be repeated this year. All 50 of the county normals of the state will be included in the offer.

Five lectures give the talks and demonstrations. Topics to be discussed in this year's series include personal and community health, health inspection of children, control of classroom contagion, mouth hygiene, and methods and materials for teaching health.

Seven hundred and fifty students were enrolled in the county normals visited by the Department lectures last year, and a large percentage of these students are now teaching in rural schools.

THE NEW PLUMBING INSPECTION LAW

The new law "to provide for the licensing of plumbers, the supervision and inspection of plumbing and the adoption and enforcement of minimum standards therefor by the state commissioner of health, with the concurrence of the advisory council of health" went into effect August 28. It is estimated that between 4,000 and 5,000 master and journeymen plumbers in the state will be brought under the provisions of the law.

Licenses will be required of all plumbers

after January 1, 1930. Up to that time, they will be issued without examination to all persons who furnish proof that they were engaged in the business of master or journeyman plumber on March 1, 1929, and possess the necessary qualifications. After January 1, 1930, examination will be required before a license is issued. Registration of plumbers' apprentices is also provided for by the law. A system of fees for examination and for renewal of licenses is prescribed.

Enforcement of the law is to be handled by the Bureau of Engineering. Plumbing inspection will be started after the first of the year, when the license system is in operation.

THE ROADSIDE WATER SURVEY

A preliminary report of the work carried on by the Bureau of Engineers during the past summer for the protection of motorists using roadside drinking water supplies has just been issued.

In all, 1,907 sources of water supplies were investigated and 1,941 samples were tested.

A departure this year was the addition of approximately 1,000 miles of county roads. As in the past, the majority of the main trunk lines were covered.

The percentage of supplies found safe during the past summer was 83.2, about the same as for the last year.

INCREASED TARIFF ON SURGICAL INSTRUMENTS

On behalf of certain surgical instrument makers, Mr. Charles J. Pilling of Philadelphia recently urged before the Committee on Ways and Means of the House of Representatives that the duty on such instruments be increased. The law now imposes a duty of 45 per cent ad valorem. Mr. Pilling proposed that this duty be raised to 75 per cent ad velorem, plus certain specific duties, and that hypodermic and dental needles be included in the schedule as surgical instruments. The added specific duties would vary from 1 cent each on articles valued at not more than 25 cents a dozen to 60 cents each on articles valued at more than \$24 a dozen. In justification of this increase, Mr. Pilling represented that at least 90 per cent of the surgical instruments used in this country are imported, and he implied that the increased duty would build up an industry that could supply all surgical instruments needed by the United States, in war as well as in peace. Hospital expenditures for surgical instruments, it was stated, averaged only about one fourth of 1 per cent of their total annual expenditures, and the surgical instrument makers represented at the hearing seemed to think that the increased duty would not add materially to the burdens of such

CHILD HYGIENE FIELD NOTES

The series of Women's Classes in child care that have been conducted in Lake and Osceola Counties by Dr. Ira Alexander have just been completed. A series of Muskegon County will be begun by Dr. Alexander October 7.

Dr. Florence H. Knowlton, also of the Bureau of Child Hygiene and Public Health Nursing, started Women's Classes in Cheboygan County on September 23.

Child Care Classes, teaching the principles of child care to girls from 10 to 15 years of age, are now being conducted in Arenac County by Miss Bertha Cooper, in Delta County by Miss Annette Fox, and in Ontonagon County by Miss Julia Clock. All three nurses are from the staff of the Bureau of Child Hygiene and Public Health Nursing.

PREVALENCE OF DISEASE

September Report				
Cases Reported				
	August 1929	September 1929	September 1928	Av. 5 yrs.
Pneumonia	176	203	241	198
Tuberculosis	807	456	233	417
Typhoid Fever	43	49	61	109
Diphtheria	227	254	239	279
Whooping Cough	783	518	874	641
Scarlet Fever	307	330	322	366
Measles	228	235	75	85
Smallpox	113	73	36	32
Meningitis	66	84	17	10
Poliomyelitis	27	52	25	89
Syphilis	1,730	1,300	1,512	1,401
Gonorrhea	1,217	888	921	1,014
Chancroid	52	37	9	11

institutions. Purchases by individual physicians were represented as a minor factor in the surgical instrument trade. The Board of Trustees of the American Medical Association was unable, however, to find evidence that an increased duty such as was proposed could be made without adding substantially to the expenses of hospitals and of the practice of medicine and surgery. Evidence was not found to show that the increased expense to which hospitals and the medical profession would be subjected could reasonably be depended on to expand the surgical instrument industry in the manner suggested. The Board of Trustees therefore filed a protest with the Committee on Ways and Means against the proposed increase in the duty on surgical instruments. Physicians interested in this matter as individuals or as organizations, and the responsible officers of hospitals, if they desire to avoid the payment of such increased prices for surgical instruments as may reasonably be expected from the proposed increase in the duty on such instruments, will do well to file protests with the Committee on Ways and Means of the House of Representatives and with their respective Representatives. — Jour. A.M.A.

TRUTH ABOUT MEDICINE

PROPAGANDA FOR REFORM

Ergot Preparations Omitted From N.N.R.: An Explanation.—In the Journal of the American Medical Association, May 4, 1929, there was published a report by the Council on Pharmacy and Chemistry on certain preparations of ergot which were intended for hypodermic administration. This report stated that the preparations had been omitted from New and Non-official Remedies because they were essentially watery extracts of ergot and therefore contained little or none of the specific alkaloids of the drug; because, with one exception they were not assayed by any method which showed their alkaloid content; and that an examination had shown that they were practically devoid of the specific alkaloids. Inasmuch as there seems to be in certain quarters some misunderstanding of the action, the Council on Pharmacy and Chemistry points out that the reasons for omitting these preparations are those stated in its report, and the Council emphasizes that no evidence was found to indicate that in any case there was adulteration, or that improper ergot had been used in the manufacture of these products. Nor was any preparation found to be unduly toxic. (Jour. A. M. A., September 7, 1929).

RADIOACTIVE WATERS AND SOLUTIONS

Not many years have passed since the Council on Pharmacy and Chemistry, basing its decision on the then available evidence, admitted to New and Non-official Remedies various preparations containing in solution radium or radium emanation (radon), and various devices for causing radium emanation to pass into drinking water. The evidence was not extremely well controlled or profuse in amount, but there seemed to be a demand by physicians for such preparations and the Council considered it worth while to set up at least minimum standards of radium content or radium activity. Actually, innumerable preparations were on the market which contained insufficient radium to have any demonstrable effects. Now the Council has issued the following statement: From an examination of the available evidence, it appears that the value of the internal use of radium solutions or of water containing radon in chronic arthritis, gout, neuritis and high blood pressure is not demonstrated by controlled clinical evidence; that in spite of many years of trial, acceptable evidence has not become available and until such evidence does become available the Council has decided not to accept generators for the production of water charged with radon or radium solutions intended for intravenous use. The announcement by the Council disposes of the claims made for all sorts of solutions and for the devices to be used in preparation of such solutions, whether they contain considerable amounts of radium or but insignificant traces. (Jour. A. M. A., September 7, 1929).

* The Journal of the Michigan State Medical Society under this heading, "Truth About Medicine," will contain matter furnished by the American Medical Association which will be of practical interest to our readers. It will deal principally with new and official and non-official medicinal agents.

THE NICOTINE CONTENT OF TOBACCO

About a year ago, the Connecticut Agricultural Experiment Station published a report which showed that the claim that certain tobaccos had been "denicotinized" was largely without foundation, for it was found that there were, among ordinary tobaccos, brands in which the nicotine was either not in excess or was actually lower than that present in the processed tobaccos, sold under the implied claim that they were practically free from nicotine. The station has now issued a further report giving the results of the analysis of tobaccos of both the processed and unprocessed types. Altogether, eleven brands of unprocessed pipe tobacco have been analyzed and found to have an average total nicotine content of 2.04 per cent; four brands of so-called denicotinized pipe tobacco gave an average total nicotine content of 1.3 per cent; ten brands of ordinary unprocessed cigars gave an average total nicotine content of 1.51 per cent, while several brands of processed, or so-called denicotinized, cigars gave an average total nicotine content of 0.95 per cent. In the cigaret field forty-six analyses were made of ordinary unprocessed products, giving an average total nicotine content of 1.77 per cent, as compared with 1.09 as the total nicotine content of twelve so-called denicotinized brands. From this work it can be seen that while some of the so-called denicotinized products contain less nicotine than the ordinary unprocessed brands of the same class, they still contain material quantities of nicotine. The main difficulty in determining whether or not the claims made by manufacturers of so-called denicotinized tobacco products are reasonable lies in the failure to know the amount of nicotine in the various tobaccos before they were processed. However, this work permits the tobacco user to arrive at some worth-while conclusions on this point. It should not be forgotten, also, that nicotine is probably not the only harmful element in tobacco smoke, and that Dixon has reached the conclusion that moist tobacco produces much more serious effects than dry tobacco, and has even suggested that the water content of tobacco might be a more harmful factor to the smoker than the nicotine content of the tobacco, and that the condition of the tobacco and the form in which it is smoked are probably more important factors in determining the amount of nicotine that the smoker gets than is the actual nicotine present in the original tobacco. (Jour. A.M.A., September 21, 1929).

THE U. S. PHARMACOPEIAL CONVENTION

The Council on Pharmacy and Chemistry has issued a report calling attention to the call for the appointment of delegates to the United States Pharmacopeial Convention. The Council urges all the organizations which are entitled to delegates to select persons who are noted for high ideals, for breadth of vision, for sane understanding, and for sound judgment, as well as for technical knowledge, men who are fitted by temperament and training to collaborate, to help by deed and by counsel to keep the United States Pharmacopeia a work in which American medicine and American pharmacy may feel a just pride; a work that fairly reflects modern medical and pharmaceutical science; a work that is conservative of the best of the past, and progressive, constructive, sensitive to the best of the new. The Council discusses the character of the work of revision and the men required for this work. It points out that the selection of drugs to be admitted to

the Pharmacopeia must be determined primarily by their therapeutic usefulness; that these are medical matters, and therefore fall within the technical province of the physicians of the revision committee; and that the definite recognition of this principle in the last revision contributed notably to its success and should be continued. The Pharmacopeia should be a working manual of the present era and not an antiquarian museum. New drugs should be admitted freely when their therapeutic usefulness appears established, and some old drugs which have fallen into neglect or disrepute should be omitted. The policies of the present revision have earned for the Pharmacopeia "the sanction of the medical community and of the public" and may safely be continued. (Jour. A.M.A., September 28, 1929).

THE UNITED STATES PHARMACOPEIA

The United States Pharmacopeia is published by authority of the United States Pharmacopeial Convention. This body meets once every ten years, and its chief function is the selection of the Committee of Revision of the United States Pharmacopeia. To this committee is assigned the task of issuing the revised edition of the book. The next Pharmacopeial Convention has been called for May 13, 1930, at which time the delegates appointed by the constituent bodies will meet and inaugurate the preparation of the eleventh revision of the Pharmacopeia. At the time when instruction in medical schools in subjects related to therapy and drugs was woefully deficient, and when conditions made necessary the establishment by the American Medical Association of its Council on Pharmacy and Chemistry, the Pharmacopeia promised to degenerate into a mere book of standards for drug control officers. In 1916, when the ninth revision of the Pharmacopeia made its appearance, it was pointed out that it was a book of standards for drugs but not a book of standard remedies. Largely as a result of the renewed interest in scientific drug therapy which was created by the Council on Pharmacy and Chemistry, there was so much interest taken in the following revision of the Pharmacopeia that, at the convention held in 1920, the medical members of the revision committee were in effect delegated to decide which of the drugs in the ninth revision were to be retained in the tenth and which were to be omitted as being of insufficient usefulness, and as a result the tenth revision is a book with which physicians and pharmacists may justly be satisfied. In order that the next revision may cor-

rectly reflect the advances in drug therapy, the medical and other bodies entitled to send delegates to the coming convention should give serious consideration to the appeal of the Council on Pharmacy and Chemistry that competent delegates be sent to this convention. (Jour. A.M.A., September 28, 1929, p. 990).

MORE MISBRANDED NOSTRUMS

The following products have been the subject of prosecution by the Food, Drug and Insecticide Administration of the United States Department of Agriculture which enforces the Federal Food and Drug Act: Odol (The Odol Corporation) consisting essentially of alcohol, 78 per cent, salol and water, flavored with volatile oils, including peppermint. Sorbefacin (The Foster-Dack Company) consisting essentially of zinc oxide with traces of menthol and thymol in a petrolatum and fatty acid base. Clear-Tone (The J. T. Kennedy Company) containing 42 per cent of alcohol, with calomel and alum and small amounts of potassium nitrate, camphor and tannin, together with water. Giles Magic Lotion and Blood Purifier (The Giles Remedy Company) consisting essentially of camphor and ether in linseed oil. Creomulsion (Creomulsion Company) consisting essentially of creosote, menthol, a small amount of alkaloidal material, sugar, gum, water and a small percentage of alcohol. Lax-Krax (The Cubbison Cracker Company) a bran cracker containing senna. Lee's Creolyptus (Creo-Lyptus Company, Inc.) consisting essentially of ammonium chloride, chloroform, plant extractives, traces of volatile oils (with a possible trace of creosote) sugar, alcohol and water. Bacid Tablets (The Arlington Chemical Company) claimed to contain bacillus acidophilus the strength of which fell below the professed standard. (Jour. A.M.A., September 28, 1929).

Mum—Nonspi—Odorono—In 1914, Mum was found to contain essentially zinc oxide and benzoic acid in a fatty base. In 1915, it was reported to contain salicylic acid, zinc oxide, glycerin, water, a tallow-like fat and traces of essential oils. Later the A.M.A. Chemical Laboratory found the product to contain 3 per cent benzoic acid and not salicylic acid. According to information available, the base of Nonspi is aluminum chloride dissolved in water containing some potassium and iron. In 1915, Odorono was found by the A.M.A. Chemical Laboratory to contain a 33 per cent solution of hydrous aluminum chloride. (Jour. A.M.A., September 28, 1929).

DESCRIBES NEW TEST FOR SCARLET FEVER CARRIERS

A simple new test for detecting carriers of scarlet fever was described by Dr. Ruth Tunnicliff of Chicago before the Laboratory Section of the American Public Health Association at Minneapolis. The test was devised to identify the organism of scarlet fever, and is well adapted for use in detecting carriers. By this test the organism can be identified in from 24 to 48 hours after the culture is made.

Results of a study of Drs. William D. Frost and Myrtle Shaw with R. C. Thomas and Mildred Gumm, from the University of Wisconsin, of the organism that causes septic sore throat were also presented to the Laboratory section. Severe epidemics of the disease have been caused by infected milk. The organism may get into milk by outside contamination or it may come directly from infected cows that have a condition known as mas-

titis. In the latter case, these scientists found that the cows do not always show any symptoms of mastitis. This may be an important factor in the start of the disease even in communities where there is milk inspection. For four years the scientists have been making routine examinations of milk from all cows and of throats of all employees on farms supplying the Chicago district with certified milk.

"We have studied 17 cows, 8 from the certified herds and 9 from other herds, that were shedding streptococcus epidemicus in their milk. About half of them showed no signs of clinical mastitis, and there was such a slight abnormality in the cows and their milk, that it was quite evident they would not have been excluded from the herd for a considerable time by a clinical examination."—Science Service.

Official Minutes of the 109th Annual Meeting of the Michigan State Medical Society held in Jackson, Michigan, September 17, 18 and 19, 1929

GENERAL SESSION

Wednesday Evening, September 18, 1929

The General Session, held in the First M. E. Church, Jackson, Michigan, convened at seven forty-five o'clock, President L. J. Hirschman, Detroit, presiding.

President Hirschman: It is my pleasure to call to order the One Hundred and Ninth meeting of the Michigan State Medical Society, and I will ask Dr. Spence for the invocation.

Rev. Frederick Spence: Let us pray:

Almighty God, our Father, we thank Thee for the revelation of Thyself in nature through history and in the movements of our modern day. We thank Thee that miracles are not past; they are still being performed, and we thank Thee for those things which we did not understand, and before which we bowed to mystery, are becoming the things which have been unfolded to us by the aid of modern science.

We thank Thee as we come to understand the laws through which Thou has operated in the past. Thou art not becoming thrust out and hewed out by Thy universe but that increasingly Thou art becoming a part of the whole of life.

We thank Thee for the new conception of the meaning of religion, that it is not concerned with the pearly gates and the golden streets of the land beyond the Valley of the Shadow called Death but increasingly we are coming to realize that it is the rule of Thy law in the whole of life and that slowly, but surely, we are finding Thee, not in the shining of the stars merely but in the higher ideals and impulses of the human heart, in the walks of our common life.

We thank Thee for the new meaning of the cross, that increasingly it is not an event of the past through which by mystical methods men defined their oneness with Thee but it is the incarnation of the spirit of the Nazarene into the whole of life by which men find their way to coronation, not through force but through the law of service.

O, God, we thank Thee that religion is not merely of the temple, it is of the laboratory, it is not merely a part of but it is in life. We thank Thee for the heroes of the common life in the field of science, in the art of medicine, the men who have followed Thee and climbed their own cross that through their surrender to knowledge and the new sciences they may render a great service to their fellowman.

We pray Thy blessing upon this gathering tonight and upon these men who are realizing, as we who seek to interpret the mind of the Carpenter of Nazareth, that after all He is the greatest, ministers the most, and the finest expression of our recognition of Thee is in the service that we render to our fellowmen.

Guide and direct all that shall be said and

done tonight. These things we ask in Christ's name. Amen.

President Hirschman: Ladies and Gentlemen: It is my great privilege and pleasure to present, to those of you who do not live in Jackson or in this part of the state, a man who is so well known to a Jackson audience that an introduction would be superfluous. I would like to present Dr. Hungerford, President of the Jackson County Medical Society.

Dr. Hungerford! (Applause)

Dr. Hungerford: Members of the Michigan State Medical Society, Ladies and Gentlemen: It is indeed a great pleasure to welcome the Michigan State Medical Society back to Jackson.

We have waited for twenty-three years for your return. During that time Jackson has grown from a small city to one of sizeable proportions, whose voice is heard throughout the world.

During that same time our County Medical Society has developed from a mere infant to a full-grown adult so that at the present time we have a total membership of practically 100 per cent in the county.

We feel proud of Jackson and her institutions of which she has many. We feel proud of our hospitals, about which you have doubtless read in a recent number of the Medical Journal.

There is one hospital, however, of which the Journal mentioned nothing and in case any of you should desire to avail yourselves of its privileges at any time in the future, I might mention the fact that we have a splendid hospital connected with our Michigan State Prison. (Laughter)

Jackson feels highly honored to entertain such a splendid organization as yours.

Now, Mr. President and members of the Michigan State Medical Society, we bid you a hearty welcome. We hope that your brief stay will be filled with much pleasure and profit to every one concerned. (Applause)

President Hirschman: On behalf of the Michigan State Medical Society, Dr. Hungerford, I wish to thank you for the cordial welcome you have given us. I wish to say that I was deeply touched this after-

noon when I had occasion, while traversing the broad avenues of your beautiful city, to see a beautiful electric light over that wonderful state institution of reform and hope, the Michigan State Prison, and there were the words, "Welcome Members of the State Medical Society." (Laughter)

I wish to congratulate the prison physician and his associates that at last there is one place in the state of Michigan where a man's practice cannot be stolen from him.

President Hirschman: We will next hear from Dr. Stone the chairman of the Council of the State Society.

Dr. R. C. Stone: Mr. President and members of the Michigan State Medical Society, and Guests: It is with a great deal of pleasure that I have the opportunity of talking for a few minutes this evening, very briefly, of one of our members who, for a period of twenty-five, thirty or more years, has rendered this Society and the people of the state of Michigan the most valuable service. He is a man who has given unstintingly of his time. He has been untiring in his efforts. He is a man who has always been thoughtful of his fellow doctors, a man who has always had the courage of his convictions and the spirit to follow them through, a man who has been a bitter opponent of unfavorable legislation and has given most hearty support to favorable legislation, a man whose life work has been a beautiful portrayal of the most popular motto of today, "Service before Self."

In addition to serving the Society he has served the people of Michigan in many capacities. In that service he has shown the same untiring disposition and spirit. No matter when duty called him he has never considered himself, he has gone and served happily, willingly and faithfully.

His service has been of that type that we all hold him in the highest esteem and have the utmost regard and admiration for him. He is a very kindly gentleman, a faithful servant and a loyal friend, Dr. Guy L. Kiefer. (Applause)

Dr. Kiefer has been honored during the past twenty-five or thirty years with many positions of trust and he has always fulfilled those positions with credit to himself. For many years he was Health Officer of the city of Detroit and a member of the Board of Health of that city. For about that many years he has been a Professor of Public Health and Hygiene on the faculty of the Detroit College of Medicine.

Dr. Kiefer has served the Society as its President and in numerous other capacities. For the past few years he has served the state as Commissioner of Health. Dr. Kiefer is largely responsible for many of our present public health activities. Our State Board of Health is recognized throughout the country as one of the leading Boards of Health in the country and much of this is due to his efforts.

During the past two years as Chairman of the Commission on Legislation his duties have been very trying and his responsibilities have been many. Constantly during the past session Dr. Kiefer was actively on duty endeavoring to conserve our legislative interests. The story of the Legislature has been told but it was through no fault of Dr. Kiefer's that it wasn't better than it was.

The Society owes Dr. Kiefer many, many thanks. I doubt if we will ever be able to repay him for the time which he has spent in our behalf.

Dr. Kiefer, on behalf of the Michigan State Medical Society, it gives me great pleasure to present you with this very small token of the appreciation of our members. (Applause)

. . . Dr. Kiefer was presented with a traveling bag, the gift of the Society and was escorted to the rostrum. . . . (Applause)

Dr. Guy L. Kiefer: Mr. President, Chairman of the Council, Ladies and Gentlemen: The members of the State Medical Society here know that usually when I get on my feet I have something to say. However, on this occasion I am nearly struck dumb.

Before I forget it, Mr. President and Mr. Chairman of the Council, I want to say most heartily, "Thank You!" I wanted to get that off my chest.

It seems to me that this action on the part of your Council and on the part of the Society is rather the reverse of what usually happens. Usually if men are thanked and their services are appreciated it is because they have accomplished something, because they have delivered the goods.

The last time I tried to deliver some goods for the Society and the people of Michigan I failed. We didn't get the legislation that would have been for the good of everyone and in which the doctors were interested because of the benefit that the people would have derived from it. Just

why a person should be made a hero when he fails is pretty hard to say.

But, Mr. President, your action is very pleasing just the same, even though it is irregular. I do not believe I have ever heard so many nice things said about an individual during his life. If a fellow does something that is worth while it is usually talked about after he has gone. It seems I have succeeded in doing something and I have been told about it while I am still here. It is very pleasing indeed.

There is one other thought that comes to me, that is, if you are going to emphasize your good will and your good judgment by a gift you couldn't have done anything better than to have selected one of leather. You know that I have a mania for leather goods. Since you have selected something of leather I want to say that the selector of this particular gift is a good picker. He picked out something that is useful and very beautiful. The nicest thought that comes to me and the nicest feeling that I have about the presentation is that it comes from the medical profession.

I once heard Dr. Carstens say in a meeting of doctors, an alumni association meeting, when he was talking to the doctors about what they were going to do when they got out in different parts of the state and how they got along and whether they were to accomplish success, "I hear of some of these fellows but I am never satisfied with what they are until I find out what the doctors think of them."

I have always remembered that. I think that is the nicest part of what has been done for me and to me tonight.

I thank you! (Applause)

President Hirschman: Ladies and Gentlemen: Those of us who have known Dr. Kiefer even for a short time only—you don't have to know him for many years—realize the fact that he not only is an extremely efficient man but he is one of the world's most modest individuals. He had the temerity to get up before the Society tonight and thank you for presenting him with a token of appreciation because of a failure. If that isn't the quintessence of modesty then I don't know what is.

Those of us who have listened to Dr. Kiefer as he has talked and exhorted with us on the subject of preventive medicine realize that the greatest exponent of preventive medicine did one of the greatest pieces of preventive work by preventing

vicious legislation from passing and still he says he is a failure.

Dr. Kiefer, in our early days of legislative struggle out there, was a source of inspiration to me. When I got out there and had to follow in his footsteps, chasing around legislators, he was not only a source of inspiration but a decided source of perspiration.

Gentlemen, we now come to one of the unfortunate parts of the program, which is the President's annual address.

I would like to call Dr. Warnshuis to the chair at this time. (Applause)

. . . Secretary Warnshuis assumed the chair. . . .

Chairman Warnshuis: Ladies and gentlemen: In the hundred and nine years of our organizational existence through some good fate, or happenstance, from year to year from our number some distinguished man of the medical profession in Michigan has been elected to the office of President. They have served us well. There has never been an impeachment of a President of the Michigan State Medical Society.

Through that same good fortune this last year, although in close proximity to our state penal institution, we have had a President who has served well. It is my pleasure to introduce him to you tonight, Dr. Louis J. Hirschman of Detroit. (Applause)

. . . The President delivered his annual address. . . . (Applause)

. . . President Hirschman resumed the chair. . . .

President Hirschman: Ladies and gentlemen: The next speaker on the program is a gentleman who has really no need for an introduction. He is well known in the state of Michigan by the wonderful record he has made in the educational world. It is not necessary to present him to this audience, but I wish to bring both audience and speaker together. At this time I want to relinquish the platform to the Dean of Administration of the University of Michigan, Dr. Alexander G. Ruthven, who will give you some comments on medical education. (Applause)

. . . Dr. Ruthven presented his prepared paper. . . . (Applause)

President Hirschman: This seems to be an evening of problems. In the President's remarks there were a few problems discussed, Dean Ruthven has brought some problems of medical education before you and the next address, the address of the evening, is entitled, "Some Inter-related

Problems of the Public and the Doctor."

By the time the evening is finished we are going to have a good deal about which to cogitate and about which to formulate.

We feel particularly happy and complimented to have this occasion graced by the presence of the President-elect of the American Medical Association because those who know him love him because of his personal charm as well as his erudition, they realize that on account of these and many other qualities he is a much sought for gentleman.

We feel particularly happy to think that of the many invitations which he has received, this is the first one he has accepted since his election to office.

We take pleasure in welcoming him to our midst and presenting him to you at this time. Dr. William Gerry Morgan, of Washington, the newly elected President of the American Medical Association.

... The audience arose and applauded.

...

... Dr. Morgan presented his prepared address. ...

President Hirschman: Ladies and gentlemen, and members of the Society: I think you will all agree with the presiding officer that our guests have rendered us a valuable service and have given us a wonderful treat.

On behalf of the members of the Michigan State Medical Society I wish to thank you for the contribution to the evening's program. (Applause)

Dr. C. R. Burr (Flint): Before passing to the next order of business I would like to lift up my voice. I would like to make two motions.

First: One to be presented by yourself, that the thanks of the assembly be extended, by a rising vote to Dr. Ruthven and Dr. Morgan for their admirable addresses.

... The motion was seconded variously and carried by a rising vote. ... (Applause)

Dr. Burr: The second—this is for you.

... President Hirschman relinquished the chair to Secretary Warnshuis. ...

Dr. Burr: Now I will give the second. A rising vote of thanks be given our retiring President, our cheerful, busy, useful, devoted retiring President for his excellent address and his interest so long continued in the Society.

... The motion was variously seconded and carried by a rising vote. ... (Applause)

Chairman Warnshuis: Your audience has demonstrated their loyalty and appreciation to you.

... President Hirschman resumed the chair. ...

President Hirschman: Now comes one of the pleasant duties of this position, and before announcing that particular subject, have we any announcements?

Secretary: No.

President Hirschman: Then nominations for President for the ensuing year are now in order.

Dr. C. G. Jennings (Wayne): Mr. President, the advance in medicine has brought many problems to the economical, social, educational aspects of this matter. We have heard, from our guests, this evening a discussion of these problems, or some of them. I noted that not one of our guests attempted to solve those problems.

There is another problem that has been looked upon as such in the medical profession, that is the problem of the general practitioner. What is he? What is his future? What is to become of him? He has a place in medicine hasn't he?

I am not following the example of my predecessors, I am not going to predict what is to happen to the general practitioner of the future, but we know at the present time that the general practitioner is the bulwark of the medical profession. We know very well that he constitutes from 70 to 75 per cent, or maybe 65 to 70 per cent would be more conservative, of the profession of the country. Therefore, he is an important individual.

The Michigan State Medical Society has always recognized the general practitioner as a very important individual in its ranks. It has elevated him to posts of honor and posts of responsibility. He has always filled those posts with honor and responsibility.

The State Medical Society has also recognized the representatives of all other departments of medicine, as a matter of fact in our past we have had representatives from all the field of medical endeavor. We have had, in the past few years, those who represent special departments in medicine. The time has come now to recognize, again, the part of the profession that represents the great bulk of the work that is done and the hard work that is done in our communities.

I have a candidate—or we have a candidate to speak properly, because he isn't

my candidate but is the candidate of a great many and I hope the majority of the members of the Michigan State Medical Society. To us it is unnecessary to eulogize him. We all know what he represents. We all know that in his community he is beloved by his patients and he has the respect and confidence of his colleagues.

He has gone out from his little community and he has become a national character, as much as it is possible for one whose field of activity in actual medicine must be rather limited. As a member of the House of Delegates of our State Society, as a member of the House of Delegates of the American Medical Association, he has represented our state and his community in the best possible way.

He has served for ten years as a member of the State Board of Registration and in this way guarded the best interests of the medical profession. I have great pleasure and really take great pleasure in nominating, for the Presidency of the Michigan State Medical Society, for the coming year, J. D. Brook of Kent County. (Applause)

Dr. Moll: On behalf of Genesee County I deem it a great honor to second the nomination of that sterling practitioner, that true and tried colleague, that untiring laborer of scientific and organized medicine, J. D. Brook of Kent County. (Applause)

Dr. W. J. Cassidy (Wayne): I move the nomination be closed.

President Hirschman: Are there any other nominations? If not, I will entertain the motion of Dr. Cassidy of Wayne that the nominations be closed.

Dr. Cassidy: And also the Secretary cast the unanimous ballot of the assembly for Dr. Brook as President.

. . . The motion was supported by several. . . .

President Hirschman: The nominations are closed and the Secretary is to be instructed to cast the unanimous ballot of the Society for Dr. J. D. Brook of Kent County for President for the ensuing year—that is the motion.

. . . The motion was carried. . . .

President Hirschman: The President is duly elected.

The next order of business is general business. Is there anything to come before the House at this time? If not, we will adjourn.

. . . The meeting adjourned at ninety o'clock. . . .

PROCEEDINGS OF THE HOUSE OF DELEGATES

TUESDAY MORNING SESSION

SEPTEMBER 17, 1929

The first session of the House of Delegates was called to order in the ballroom of the Hotel Hayes, Jackson, Michigan, by the speaker, Henry J. Pyle, Grand Rapids, at 10:30 o'clock.

Speaker Pyle: We will now listen to the report of the Credentials Committee.

Dr. W. E. Chapman (Cheboygan): The total number of delegates is 48.

Speaker Pyle: As that constitutes a quorum we will call the meeting to order.

Speaker Pyle: We will now call the roll.

Secretary: I hold in my hand 52 signed attendants for this session. I move you that that constitute the official roll call of this first session of the House.

Dr. C. S. Gorsline (Calhoun): I second the motion.

. . . The motion was carried. . . .

. . . Speaker Pyle delivered his annual address. . . . (Applause).

Gentlemen:

I feel greatly honored to preside at this meeting of the House of Delegates of the Michigan State Medical Society. I assure you that I greatly appreciate the trust reposed in me and it will be my purpose to justify your action. Nowadays we hear a great deal about mergers in almost every branch of human activity, but we should be proud of the fact that the progressive Doctors of Medicine of this commonwealth anticipated this tendency by organizing one hundred and nine years ago to form a society, and as a group it has never lost its identity.

Today this assembly is convened to carry out the wishes of thirty-six hundred physicians of this state. The House of Delegates is the supporting arm and guiding hand of our state organization. Its responsibilities are all inclusive. With it rests the future of the profession in Michigan. It holds in its jurisdiction the honor of medicine in this state. With it is placed the health welfare of the public as well as the individual and collective interests of our members. Your deliberations and actions upon the problems confronting us will have very important influences and will be subjected to the scrutinizing, critical review of the people of this community. They will record progress and beget confidence, or the reverse, depending

upon the way in which you discharge your individual trusts reposed in you by the County Society which has honored you by sending you here. I purposely stress these points because I do not believe that the average member of our State Society realizes the great importance of being a delegate.

As a house we do not deal with the romance or vagaries of medicine. We care not whether the individual physician is of the opinion that a gastric ulcer should be treated surgically or medically. Matters of this kind are handled with more or less debate in the different scientific sections, and although the public interest should, of course, come first, we should do everything in our power to conserve the interests of our individual members. Although we all stand ready to honor those of our members who are along in years and have served nobly, let us not forget the future of the young man, who, after years of study and training, finds numerous agencies constantly making it more difficult for him to obtain remuneration for the time spent in preparation for his life's work. In the past our Council and Legislative Committees have worked diligently so that our noble profession would not be rated legally with those sects who try to exploit the sick by back pushing, bone pulling and incantations. There is, I believe, an element in our profession who believe only in a passive opposition to these sects lest we lose our dignity, but war is never dignified, and I personally believe in a two-fisted, healthy resistance. After all, the general public will benefit, and I am sure the end will justify the means. It would certainly be a dark day for the medical profession and the public if the young physician who has spent seven years of study and training after leaving high school, should be placed on a par with the long haired product of a diploma mill. Our Society has already done a great deal to educate the public, but I am sure it would be well for the proper committees to see to it that the general public be informed as to the qualifications required before a practitioner may use the title "M. D." Surely the title "Doctor" means nothing because the uninformed layman does not know whether the person using this title deals in souls, salves or sophistry.

It is my own opinion that much harm is done by some of our own members because I have occasionally seen that there is too close an association between the

regular physician and the irregular practitioner in the matter of consultations and the referring of cases. I presume there is nothing written in our constitution that would prevent any member from associating with the irregular, but I do believe that we, as individuals, should not hesitate to call these errors to the attention of the offender. Possibly some suggestions might come from this assembly to the Council dealing with this subject.

Another matter which I would like to call to your attention is our Constitution and By-Laws. After a hurried reading, I believe they contain a few horses and buggies and long skirts which may impede our progress and obscure our inherent loveliness. I trust your Speaker will be authorized to appoint a committee to revise our Constitution.

I think it would expedite matters greatly if the Speaker had the power to appoint a nominating committee of five members. Nominations coming from this committee would not, of course, prevent any members making nominations from the floor. The office of President-elect might also be created.

Anticipating your patient co-operation in the conduct of this session, I thank you.

Speaker Pyle: This address will be referred to the Committee on the Report of Officers.

We will now call on our state President, Dr. Hirschman, for his address. (Applause).

Mr. Speaker and Members of the House of Delegates:

Inasmuch as it is customary for your president to make a few remarks at the opening of your annual session, I must fall in line with this custom.

The problems which have confronted us during the past year have been principally legislative and the excellent report of our legislative commission fully covers the story of our activities along that line. I am discussing this subject more at length in my address to be presented at tomorrow night's general session. I wish to state, however, that in order to secure the proper attention of our legislators to matters of public health the initiative must not be taken by us, but by non-medical and civic organizations.

The mind of the average legislator cannot conceive of the medical profession having any other than a selfish interest in all proposed laws to raise the standard of

medical service to our citizens. Until they realize that a physician is something more than an individual engaged in making a livelihood, and until they feel that he really is in earnest in his efforts to protect the public from improperly qualified practitioners and so-called healers, nothing which emanates primarily from the medical profession will receive a sympathetic hearing from the law-makers of our state.

I would suggest that some special effort be made to establish contact between our society and the various lay organizations such as chambers of commerce, civic associations, luncheon clubs, fraternal organizations, women's clubs, parent-teachers associations and organizations of our sister professions, the law, engineering and the ministry. With the co-operation of organizations of thinking, intelligent and interested citizens, perhaps we can awaken sufficient interest in the citizenry of our state to stand together for self-preservation in health matters.

One way in which the Michigan State Medical Society can interest the general public in medical matters and therefore awaken them to the menace of being subjected to the ministrations of chiropractors, osteopaths, Christian Scientists and other so-called non-medical "healers" is to give them the opportunity of learning something about medicine and the profession.

In every large center of population as well as the smaller communities who possess public libraries and reading rooms, our state society should assist, as far as it is necessary, the county society in providing medical literature which is written for the lay public. Copies of *Hygiea* and all of the pamphlets issued by the American Medical Association for the public should be placed on the reading tables of these libraries and the supply constantly renewed. This distribution should be in the hands of a committee appointed by each county society or by their secretary as the case may be.

A number of books have been printed for publication on medical matters which should also be available for loaning purposes. I wish that this matter be given careful consideration. In the meantime, this subject should be brought to the attention of the various county societies and their members through our state journal.

TAXATION WITHOUT REPRESENTATION

In the good old days of the American Revolution this was the slogan for which

the patriotic citizens of our young country fought, bled and died. It has been a noticeable fact that while practically every other state society has been represented in the House of Delegates of the American Medical Association by men who represent the large centers of medicine and population in their state, for some reason Michigan has not been equally, fairly or proportionately so represented in that regard.

The Wayne County Medical Society representing nearly one-half of our membership and a county which contains a large medical center, the fourth city in population in this country, has not for many years been properly or proportionately represented in our official delegation to the American Medical Association.

It is time that this representation cease to be made a political foot-ball and justice, fairness and equity be observed. It is hoped that as vacancies occur that Wayne County with its nearly fifteen hundred members be represented by a minimum of two delegates in the future.

The problems of Wayne County are the problems of the state and the state's problems are those of Wayne County. I earnestly beg of you members of our House of Delegates to see that Wayne County is treated more fairly in this matter of apportionment just the same as the State of Michigan is seeking justice in our congressional apportionment in the national House of Representatives at Washington.

I do not wish to burden you at length with matters which will be presented by individual delegates and in various committee reports. There are two or three matters, however, on which a word from your president will not be amiss. I therefore, take this opportunity of speaking upon a subject which is of vital importance to any state medical society and particularly to our own at the present time.

THE SECRETARYSHIP

If I do not dwell upon any other subject to you this morning, the one upon which I am speaking now is one which will deserve your serious attention.

While the secretary and treasurer are elected by the council of our society, I believe that whatever action they may take should be, and properly so, influenced by the wishes and advice of the delegates who represent the various constituent units of our society. Each year by action of the House of Delegates as indicated by the needs of the Public Health and our pro-

professional activity, the work of the executive officers is manifoldly increased.

—The committees, especially the members of the executive committee, editor and president are giving more and more of their time to the society. The number of days taken from their professional work with its accompanying loss of time, and income is increasing. But the sum of all these activities added together would be but a small fraction of the sacrifice of the income which has been suffered by the secretary of our society. The present remuneration of this office is absolutely incommensurate with the demands of the position. From personal contact with the work of our secretary during the past year, I am convinced that the time is near at hand when Michigan must follow the lead of other great medical societies and provide for a full-time secretary.

The present incumbent of this office by reason of his peculiar adaptability to its many demands, would be an extremely difficult man to replace. One must remember, however, that after all he must earn his livelihood in the practice of medicine. As every member of this society knows when one is forced to absent himself from his professional duties nearly half of the time, a medical practice is soon dissipated and the years of constructive work building up such a practice are wasted. It is a difficult task for any one to serve two masters at the same time and serve them well. The House of Delegates and the council must study the problem of proper compensation for a part-time secretary or arrange adequately for the employment of a full-time secretary without further delay.

THE PRESIDENT-ELECT

Inasmuch as it devolves upon your officers to carry on, with the assistance of the appropriate committees, the workings of the society, the selection of these officers should be made at all times with the best interests of the society paramount.

When the Michigan State Medical Society wishes to honor one of its members by elevating him to the highest office within its gift, this should be literally true. The office of president of this organization is far from being an ornamental position, nor is it a shelf upon which to place what remains of a member when his active professional days have definitely declined. The man whom this society honors by placing upon his shoulders the responsibility of guiding its activities during his

term of office must be prepared for many personal and professional sacrifices.

Inasmuch as this is primarily a *medical* organization, he must have achieved some distinction in the *practice of his profession*. He must also be possessed of a considerable amount of energy and executive ability and must be physically able to comply with the many demands made upon him which involves considerable travel and many absences from his home. He must be willing at all times to accept constructive criticism and at the same time must not allow opposition or lack of co-operation to discourage him. In order to give the best service to this organization, its president must be a man who is more or less in touch with all the activities of organized medicine and particularly those of his state society. In order to produce a more smoothly running machine and preserve the continuity of action, purpose and progress, the Michigan State Medical Society should follow the precedent of the American Medical Association and several of our sister states societies.

Our constitution and by-laws must be amended so that a president-elect can be chosen one year before his term of office is to begin. The president-elect should be invited to attend all the meetings of the executive committee and of the council and all the other important conferences during the year preceding his installation. In this way he can become thoroughly familiar with the aims, purposes and problems of the society as well as the operation of the various functions and activities of the organization in order that he may be thoroughly trained and prepared for his activities as the presiding officer.

The step necessary for this change in our organization should be instituted at once in order that a president-elect may be chosen at the next annual session.

THE EX-PRESIDENTS

As has been said above, the members of this organization who have achieved the distinction of acting as its president have acquired a large fund of knowledge, information and experience which is of great value to the society. To be honored by this organization by being called to preside over it entails a great responsibility on the individual. There is no reason why this experience should be lost to the organization after his term of office has expired. There is no desire on my part to advocate any precedent for continuing office holders in office. It is suggested,

however, that the services of the ex-president, made valuable by previous contact, be utilized by the society if not in an active, at least in a consulting capacity.

It is proposed, therefore, that the formation of a board of ex-presidents be considered with the idea of utilizing their influence and experience in matters involving ethics, policy, finance or legislation, should at any time the officers or council of the society feel the need of such support.

THE VICE-PRESIDENTS

The vice-presidents of our society should be selected with as much care as the president-elect. While it is desirable and oft times politic to have various sections of the state represented geographically, it is far more important to select men who are fully qualified to fill the presidential chair when and if the occasion should arise. The vice-presidency should be something more than a position of honor and expectancy. Each vice-president should be actively engaged in some one of the activities of the society. It might be desirable to divide the state into four sections and have one of the vice-presidents in charge and to act with the group of councilors in his section, in all matters which are purely sectional in character.

As our post-graduate activities increase it might be desirable to have the vice-president take active charge of these activities in his section of the state. During the past year your president has requested the presence of one of the vice-presidents at each executive and council meeting in order that he might be familiar with the workings of our organization. It is hoped that this will continue. I believe that it would be extremely desirable to make each vice-president the chairman of one of the important committees. In this way, each vice-president would become an active unit of our society organization and become a functioning official instead of being part of the ornamental background.

MEDICAL HISTORY OF MICHIGAN

This monumental piece of historical value has been under way for several years by a hard working committee of our organization. Without disparaging in any way, the work of the other committeemen, this committee does not differ from many others in that the major portion of the work is carried on the shoulders of its chairman. The collection of material and editing of the same, involving the inspiring story of medicine in Michigan has been

carried on by one of our ex-presidents, who while retired from the active practice of his profession, refuses to become inactive. I refer to the task of preparing the medical history of the profession of our great state. Dr. C. B. Burr is doing an outstanding piece of work which will preserve intact the story of Michigan's place in the medical world from the time of the first pioneer to the accomplishments of the present day. This labor of love on the part of Dr. Burr has placed our profession forever in his debt and will keep his memory ever green in the hearts of his profession for all time to come. I sincerely hope that the first volume will be in the printer's hands before very long and that each of us will be able to number among our treasured possessions a complete set of volumes of this record of the achievements of our medical forefathers in Michigan.

In conclusion I trust that the deliberations of this House of Delegates will be productive of much that is constructive and beneficial not only to our own organization but to the people of Michigan who have intrusted their lives and their well being to our hands.

I wish to thank all of you who have assisted and collaborated in making my administration productive of much that will be of value to our organization and its efforts. I bespeak for my successor the same kindly and sympathetic support and co-operation that it was by pleasure to receive from one and all during the year just closed.

. . . President Hirschman presented his prepared annual address. . . (Applause).

Speaker Pyle: The address will be referred to the Committee on Officers' Reports.

Secretary: When one goes back in the history of organized medicine, and especially in the period of the reorganization of the American Medical Association, there are two outstanding names. One is that of Dr. George H. Simmons, and the other is that of Dr. McCormack. Dr. McCormack has gone to his eternal reward, but our Michigan State Medical Society is fortunate to have Dr. McCormack's son as our guest and as a participant in our program.

It is my particular pleasure to introduce Dr. Arthur McCormack, Secretary of the Kentucky State Medical Society and the State Department of Health of Kentucky. (Applause).

Dr. Arthur McCormack: I am happy to be

present. We are fortunate in Kentucky, just as you are; we have a fundamentalist as our President this year, Dr. Haines. We have gone back to the first principles, as you have done. When I received the delightful invitation to come to this meeting Dr. Haines was good enough to tell me that I must come up immediately and find out exactly how the thing was done. I was particularly glad to do this because I was in the conference of the State Secretaries in the American Medical Association and Dr. Warnshuis has done a lot of my training in medical economics and those larger affairs of medicine that have gone to make our organization in Kentucky successful.

I was glad to come here and to see you. I am an alumnus of Detroit and the distinguished faculty of that institution has been very good to me, showing the generosity of Michigan.

After all, you Michiganders owe us a lot of gratitude because you would have been in Canada if it hadn't been for us down there. We made you citizens of America and we have a right to come up here and find out anything that is good for us. I am very happy, indeed, to be here and watch you in these deliberations. I do not think I ever heard a finer presentation of a Presidential message than was given here.

The things that Dr. Hirschman has talked to you about so practically are the things that are in our hearts. It wasn't fair for us doctors to be giving so much of ourselves and our time, for so many years, to everything that came along and yet not to realize the change in the economic situation which makes it impossible for a man to give service to a practical organization, such as the medical organizations are today, without compensation.

I never hesitate to "butt" in on medical organizations because I always feel so natural when I am among doctors. I feel perfectly free to talk about what is in my heart. I do not think it is right for me to take up your time without saying some of the things that my extensive observational privileges have made me feel full of.

You have had the outstanding state secretary of the United States in your organization for many years. He has been effective and he has done such good work so you do not want to impose on him. When you get started on the secretary business do not try to get a layman to run your job. I do not think we are yet non compos mentis, or at the stage when we need a full time lay secretary. I am told they have to find out everything they know from you in the first place. It is easier to find somebody who has been raised right, like this chap has over here (referring to Dr. Warnshuis) than it is to get one who hasn't had a medical background and who starts out by embarrassing us constantly by all sorts of complications. I have seen that happen in almost every state of the Union. There are many varieties of them. Some of them succeed in accomplishing certain results provided somebody like you (again referring to Dr. Warnshuis) gives the time to coaching them and tells them what to do. If they go themselves it is like putting a greenhorn on to steer a ship. They will run on the rocks and the profession will be humiliated.

I have been preparing for a number of years an article that I will publish some day in our Journal. It is on the genus medicus extinctus. We doctors have been, and our work has become very much complicated. We first started out with the nurses and the technicians and the other systems. We have so many of them that it is

only a question of a generation or two until every one of them will start practicing in medicine. You have to remember that all the time.

If the fellow that is doing the work is the one that learns the work, and if we let him do it we become executives. After a little while they are going to be lay executives practicing medicine and we are going to be among the technicians and will go around doing our little part and we will develop into these tremendous specialties that are too frequently occupying our time and are circumscribing our vision.

It seems to be important to us to remember that we are the heirs of the ages, that the whole responsibility for scientific medicine and public health is on our shoulders and that in proportion as we retain control and do the job ourselves will we succeed in that large vision of making ourselves the human engineers who are going to keep people well in the future. Our big job is going to be as human engineers guiding them into good health as far as it is possible to do it. We are going to have to reverse our methods, therefore, in some respects. Let us not revise them by giving away our whole heritage to others and have us merely looking on as supporters in that honor.

It is a great privilege to be here and I shall take back to Kentucky from this meeting, I know, many suggestions that will be of a great deal of value. I congratulate you on the near completion of your history. It is a glorious history and I know how gratified and stimulated we will all be by having the privilege of reading it. (Applause).

Speaker Pyle: We will now listen to the annual report of the Council. Dr. Stone.

Dr. R. C. Stone: It is not my intention, this morning, to bore you or to take up your time with any remarks. Your program is full. You have started a little bit late. According to the custom which was inaugurated last year I am going to ask our Secretary to give you the report of the Council. (Applause).

TO THE HOUSE OF DELEGATES:

The Council transmits this, its Annual Report.

During the past fiscal year your Council has been mindful of the expressed and implied wishes of the House of Delegates. In official activity the Council has sought diligently to discharge its obligations to our membership as well as to the citizens of our Commonwealth. It submits the following statements, reports and recommendations:

FINANCIAL

The financial receipts and expenditures for 1928 were duly reported in the Journal that imparted our bonded auditor's report. On January 1, 1929, our reserve funds were: Society, \$27,698.75, and Medical Defense, \$12,841.80. This present year will witness a very material increase

in expenditures by reason of an expensive legislative campaign, the need of additional help and an increase in cost of the Clinical Conferences that have been conducted. The broadening scope of our society activity has likewise entailed added expense. Your Council feels that these expenditures have resulted in personal benefits to our members and therefore are wholly justified. The policy has been that actual expenses of individuals are compensated. Your Council assures the House of Delegates that it is ever alert to keep expenses at the lowest possible figure.

MEMBERSHIP

Our membership on August 31, 1929, was 3,327, represented in the following component units:

Alpena	14	Macomb	38
Northern Michigan..	14	Manistee	12
Barry	12	Marquette-Alger	38
Bay-Arenac-Iosco	61	Mason	9
Berrien	42	Mecosta	20
Branch	7	Menominee	11
Calhoun	118	Midland	7
Cass	8	Monroe	34
Chippewa-Mackinac	15	Muskegon	67
Clinton	16	Newaygo	11
Delta	22	Oakland	108
Dickinson-Iron	7	Oceana	8
Eaton	19	O. M. C. O. R. O.	
Genesee	133	Otsego	
Gogebic	26	Montmorency	
Grand Traverse-		Crawford	
Leelanau	25	Oscoda	
Gratiot-Isabella-		Roscommon	
Clare	28	Ogemaw	10
Hillsdale	20	Ontonagon	6
Houghton	41	Ottawa	26
Huron	10	Saginaw	62
Ingham	89	Sanilac	6
Ionia-Montcalm	36	Schoolcraft	5
Jackson	76	Shiawassee	30
Kalamazoo	115	St. Clair	44
Kent	189	St. Joseph	15
Lapeer	16	Tri	21
Lenawee	34	Tuscola	25
Livingston	15	Washtenaw	121
Luce	10	Wayne	1,390

POST-GRADUATE CONFERENCES, CLINICS AND COURSES

Arrangements and plans are perfected to conduct one, and in some instances, two Post-Graduate Conferences in each Councilor District during this present year. These conferences continue to receive the interest and appreciation of our members.

In June, a two-day Clinic was conducted in Detroit. The program consisted of out-of-state noted medical speakers.

In May the first Post-Graduate Course, under the auspices of the State Society and the Department of Post-Graduate Medicine of the university, was given in Detroit. For this four weeks' course provision had been made for a class of thirty,

the attendance was forty-five. In addition, Post-Graduate courses in Roentgenology and Serology were given at the university. This year witnessed a material advancement in the development of plans that lead toward the completed establishment of a school of post-graduate medicine that will accord to our members the fullest opportunity for the pursuit of post-graduate studies.

Your Council feels strongly that the efforts directed towards enhancing and broadening state opportunities for post-graduate work is of outstanding importance in our society activity. It is a call and demand of the times. The public is insistent upon receiving the services of doctors abreast of scientific knowledge and who are capable of providing to the fullest degree that type of service. Our members must render this high-grade service. It is the duty of our society to make it possible for our members to remain abreast of medical progress at a minimum expenditure of personal funds and time. It is toward that end that your Council and officers are expending their thought, efforts and time. Your Council urges, most intensely, that our members avail themselves of these opportunities for professional advancement, thereby avoiding the formation of criticisms based upon inefficient professional services.

LEGISLATION

Your Council directs attention to the reports that have appeared in several issues of The Journal relative to our experiences during the session of the 1929 Legislature. We draw particular attention to the Legislative Commission's final report transmitted to you during this session. Your Council recommends that this report be given extended and careful consideration.

HONORARY MEMBERS

The Council nominates the following Honorary Members:

Dr. R. N. Eccles, Blissfield, Lenawee County.

Dr. A. M. Hume, Owosso, Shiawassee County.

Dr. C. B. Wasson, Bellevue, Eaton County.

Dr. H. D. Robinson, Manistee, Manistee County.

EXECUTIVE COMMITTEE

The Executive Committee of the Council has continued to hold monthly meetings and has thereby kept in intimate contact and advised in the work of our officers and committees.

SOCIETY ACTIVITY

The Council submits for information and without comment, because reports have appeared from time to time in The Journal, the following citation of the scope that has been characteristic of our society work during the past year:

1. Joint Committee on Public Health Education.
2. Medico-Legal Defense.
3. Annual Conference of County Secretaries.
4. The Journal.
5. Bureau of Public Information and Publicity.
6. Organizational Problems of County Societies.
7. Conference with and Representation upon the State Crippled Children's Commission.
8. Co-operation with Standing Committees and Especially with the Committee on Civic and Industrial Relations.
9. Advisory Conferences with the State Department of Health.
10. Advisory Relationship with County Clinics for Crippled Children.
11. Bureau of Inquiries for Members.
12. Details of Annual Meeting, Section Programs, Commercial and Scientific Exhibits.

It will be perceived from the above enumeration that your State Society work includes effective contact with a wide field of state and national activities that impinge upon medical practice in Michigan and in which our members have a vital and personal interest. The assurance is given that in all these relationships the motive has been to conserve and enhance our members' welfare. Your Council is of the opinion that never before has our Society reflected such a broad and important scope of organizational work, or achieved more for its membership personnel.

MEDICAL ECONOMICS

The Council has sought to remain in close contact with and to support our American Medical Association in its work that deals with national and state medical problems. We are lending all possible assistance in national legislation. We are endeavoring to fully co-operate with the Committee on the Cost of Medical Care and we unite, without reservation, to advance the work of the several councils and bureaus of the American Medical Association. The opportunity is here utilized to approve and commend as well as to express appreciation for these manifesta-

tions that our parent organization, the American Medical Association, is exhibiting in its work for the profession as a whole and the doctor as an individual.

The Council sincerely and urgently recommends that all of our members become Fellows of the American Medical Association. It would be a distinction to which we could point with just pride if Michigan would support our parent organization by recording 100 per cent Fellowship in that national body that so well serves the members of the profession of medicine. Your Council makes this recommendation with utmost sincerity and earnestness and trusts this House of Delegates will record some specific action thereon.

COUNTY SOCIETIES

The Council feels strongly that County Societies must assert more emphatically the purposes for which they exist and to rightly assume their inherent rights to local leader and directorship in all matters pertaining to medical practice and public health.

With regretful concern do we note the relinquishment of this leadership to self-constituted and dis-related groups that are trespassing upon and usurping the rights and prerogatives of County Medical Societies. Hospital staffs, clinic groups, independent organizations and lay individuals are invading County Society functions and institute their activities in a most dis-related and, at times, arrogant manner. The situation presents a serious problem and danger. We quote the following from Secretary West's annual report rendered at the 1929 session of the American Medical Association in Portland:

THE NEED FOR COMPACT AND EFFICIENT ORGANIZATION

"The medical profession, in common with all other groups of society, is feeling the strain of a great transitional stage in the life of our country. In some ways physicians are being subjected to greater pressure and stress than any other group. The tendency of government toward paternalism, the restrictions imposed by legislative enactments and by bureaucratic regulations, the establishment of great funds and foundations ostensibly benevolent in character interested primarily in medical care, the trend of modern business with its installment plans and high pressure salesmanship, the propagation of half-baked theories, semi-truths and positive misinformation through the public press and even through periodicals designed for physicians, a flood of loose talk without regard for fact and, it may be, the disposition on the part of a minor element of the profession to commercialize the practice of medicine and to depart from ideals and traditions, established through the ages, that have made possible the progress and the achievements of scientific medi-

cine—all these are factors in the situation that exists today in which the medical profession finds itself the object of much criticism that is not deserved and the recipient of many suggestions for its conduct. Much of this may be helpful, but a great mass represents considerations which physicians know are unpractical or even dangerous.

"There has never been a time when there was greater need for compact and efficient organization of the physicians of this country than exists now. Our own plan of organization is comprehensive and, in most particulars, entirely sufficient if put into proper operation and carried out with reasonable efficiency. This cannot be done if the dissipation of effort and the conflict of interest occasioned by the existence of a multitudinous number of independent medical organizations are to be continued. The number of these independent groups can be materially reduced with benefit to the cause of scientific medicine and, consequently, with benefit to the individual physician and to the public. They are maintained for the most part by our own members who could contribute more to the common good through the county medical society, the state medical association and the American Medical Association as the fundamental and necessary organizations of physicians in the United States. The inordinate number of medical meetings occasioned by the existence of so many societies, the frequency of hospital staff meetings, on which attendance is compulsory under rules established by other than those who must attend, glorified as many of these staff-meetings are into scientific societies, will sap the vitality of the county medical societies and make it impossible for the regularly organized profession to deal with problems that are pressing for solution and that cannot be controlled through any other agency.

"In one city with a medical population of less than five hundred, thirty-three meetings are scheduled in one month, twenty-nine of them staff meetings. In another city with less than nine hundred physicians, including non-members, twenty-three meetings are scheduled in one week, eight of them staff meetings. These examples are typical of a national situation.

"In practically all instances, the members of independent organizations are the members of the component county medical societies. The work of one group must be done by the very men that must be depended on by the other. Why cannot the regular organization meet all the needs of its members, since whatever is done must be done by them? If there is need for special programs, why can they not be arranged for by the county society and the state association and the national organization as part of their own broad program of work?

"There are problems arising out of more or less revolutionary conditions of the times that cannot be effectively solved except through the agency of organized medicine. There are others that will be solved only through the processes of evolution, although efforts are constantly being made to deal with them by the application of revolutionary methods. There is great need for well considered action on the part of a unified profession looking toward the solution of those problems that are susceptible of solution through human agency. It is equally important that there shall be no ill considered action in attempting to deal immediately and finally with those problems that will be worked out only through the process

of time. There is need also, for combatting the efforts of agitators who set up windmills on which they can break their lances, who create great furor over pseudoproblems and thus detract attention from important matters that should receive earnest and persistent consideration.

"The urgent demand of the time is for unified action and for expression through a great voice that will speak authoritatively for the entire profession of medicine in the several states and in the United States. This demand can be properly met through unity that is possible only as far as the profession is compactly organized. Its attention must be centralized, without undue division of fealty and without unnecessary waste, on those responsibilities and duties that naturally devolve on the profession in its organized capacity, and that heretofore have always been discharged with credit and honor."

Your Council is therefore constrained to most earnestly recommend that all our members renew their loyalty to their County Society. It is a pressing responsibility of every delegate, when he returns to his County Society, to present this problem and to not desist until his society has fully reasserted itself and assumed with renewed energy local leadership. Your Council calls upon all members to evidence their fullest loyalty to their County Society and to cause their remaining activities to be subservient to their local society. Your Council further recommends that a proper resolution be adopted expressing the desirability that County Societies take such action as will bring the County Society into leadership in all the problems and activities related to the practice of medicine and public health welfare in its county. Such assertiveness is imperative to our professional and society interests.

CONCLUSION

Your Council reaffirms that it recognizes the responsibility that is reposed in it. The Council discharges its duties with but one guiding motive—our collective and individual interests to the honor of our profession and the welfare of the public.

Respectfully submitted by:

THE COUNCIL.

R. C. STONE, *Chairman.*

F. C. WARNSHUIS, *Secretary.*

Speaker Pyle: This report of the Council will be referred to the Committee on the Reports of Officers.

You will note that the next order of business is the appointment of Reference Committee. According to our constitution there should be three committees and I will appoint them as follows:

REPORT OF OFFICERS

William J. Cassidy, Wayne.
W. J. Smith, Wexford-Kalkaska-Missaukee.
Robert Baker, Oakland.
C. N. Bottum, Marquette-Alger.
F. T. Andrews, Kalamazoo.

REPORT OF THE COUNCIL

C. F. McClintic, Wayne.
George Hafford, Calhoun.
F. Reeder, Genesee.
C. R. Keyport, Oscoda, Roscommon, Ogemaw.
E. F. Crummer, Bay, Arenac, Iosco.

MISCELLANEOUS BUSINESS

Milton Shaw, Ingham.
S. T. Bell, Alpena.
William C. McCutcheon, Cass.
W. Elwood Tew, Gogebic.
W. B. Holdship, Huron.

The next order of business is the election of the Nominating Committee.

Dr. A. E. Catherwood (Wayne): I place in nomination the name of Dr. Cassidy for the Nominating Committee.

Dr. Gorsline: I want to nominate George Hafford of Calhoun.

Dr. C. D. Munro (Jackson): I nominate Dr. J. J. O'Meara.

Dr. C. Moll (Genesee): I nominate Dr. Ellet of Benton Harbor.

Dr. Harry F. Dibble (Wayne): I nominate Dr. Keyport of Oscoda.

Dr. Gorsline: I move the nominations be closed.

Dr. C. F. McClintic (Wayne): I second the motion.

Dr. Gorsline: I would add to that that the Secretary be instructed to cast the ballot of the House for the five gentlemen.

Dr. McClintic: I'll second that.

... The motion was carried. ...

Secretary: Your Secretary does so cast the ballot of this House for the Nominating Committee to be composed of: Cassidy, Hafford, O'Meara, Ellet and Keyport.

Speaker Pyle: The Chair will declare the Nominating Committee elected as stated.

We will now listen to the reports of the various committees. There is the Committee on Medical Education.

Dr. Biddle: I move the report be received as printed in the program.

... The motion was seconded and carried. ...

Speaker Pyle: Next we will hear from the Committee on Public Health.

Secretary: Does that mean that the reports are referred to the Reference Committee?

Speaker Pyle: They will be referred to the proper committees.

Dr. R. D. Thompson (Kalamazoo): I move you that the report of the Committee on Public Health be accepted as printed.

... The motion was seconded and carried. ...

Speaker Pyle: We will next hear from the Committee on Tuberculosis. (No member of the Committee was present).

Next is the Committee on Civic and Industrial Relations.

Secretary Warnshuis: Dr. Collisi is the chairman of that committee. He is not a member of the House of Delegates. Dr. Dibble, who is a member of that committee, is a member of the House of Delegates.

Dr. Dibble: I spoke to Dr. Collisi on that this morning. He has that report and is supposed to present it here.

Dr. Harrison S. Collisi: The report has been previously printed in the State Journal and it also appears on page 39 of this program. It is rather long and as chairman of the committee I would be glad to answer any questions that anyone has to ask with reference to the report, if there is any question in your minds on it.

Speaker Pyle: Is there any discussion, or are there any questions that you would like to ask the chairman of the Industrial Relations Committee, Dr. Collisi?

Dr. McClintic: I move the report of the committee be accepted as printed in the Journal.

... The motion was seconded and carried. ...

Dr. McClintic: Also, as refers to the report of the Tuberculosis Committee, I would like to have unanimous consent to refer that report to the proper committee.

Speaker Pyle: There is no objection to accepting the report of the committee as printed.

Dr. McClintic: Then I move that the report as printed be referred to the Reference Committee.

... The motion was seconded and carried. ...

Dr. Hirschman: I would like to say a word here. I would like to take this opportunity of expressing my personal appreciation, and I think that could include the appreciation of the membership of the State Medical Society, for the wonderful piece of work done by the Committee on

Civic and Industrial Relations. You must all realize that they have done one of the outstanding pieces of work for the profession in many years. Those of you who have not read that report, I would advise you to do so. I would like to take this opportunity of proposing a vote of appreciation and thanks for the excellent piece of work done on behalf of Michigan this year.

Dr. J. Earl McIntyre (Ingham): I will support that motion. I will move that a vote of appreciation be extended to the Committee on Civic and Industrial Relations for the wonderful work they have done.

Dr. Gorsline: I second the motion.

... The motion was carried. ...

Speaker Pyle: We will next hear from the Committee on Venereal Prophylaxis.

Secretary Warnshuis: There is no report, only a communication from the chairman of the committee. It would be entirely in order to refer that communication to our Reference Committee on reports of committees.

Speaker Pyle: That report will be so referred.

Next we will hear from the Committee on Medical History, Dr. Burr.

Dr. C. B. Burr: The report has been printed and may I ask that it be accepted as printed?

Dr. J. H. Dempster (Wayne): I make a motion that the report of the Committee on Medical History be accepted as printed.

Dr. F. T. Andrews (Kalamazoo): I second the motion.

... The motion was carried. ...

LEGISLATIVE COMMISSION

Speaker Pyle: We will now listen to the report of the Legislative Commission, Dr. Kiefer.

Dr. Guy L. Kiefer: Mr. Speaker and Delegates: Your Legislative Commission submits this report. This is the final report.

Following the creation of this Commission we have from time to time transmitted reports that reflected our work. The story of our legislative experience during the session of the Legislature has been told. It now remains for us to formulate certain conclusions and recommendations for consideration and action by the House of Delegates.

Conclusions: Our contacts and experiences impel us to set forth the following:

1. Legislative enactments governing the practice of medicine and surgery are of but passing concern to the members of

the Legislature. Legislators are so uninformed in regard to medical educational requirements that they do not differentiate or judge between principles, facts, and factors that govern medical practice. The claims of certain groups are as impressive to them as are the truths of scientific medicine and the laws of preventive medicine.

2. For reasons undiscernable legislators assume and hold that when our profession inspires, recommends, or seeks legislation that we are doing so for selfish and ulterior purposes. We are so accused and our representatives are questioned and frequently ignored. We are also credited with being biased and intolerant as well as perpetuating a medical trust.

3. Legislators sponsoring cult legislation discharge their commissions by aggressive lobbying and trading of votes. Their inspiring motive seemingly is to obtain the passage of their bills regardless of their provisions or effect upon the health and welfare of the people. They are irresponsible to and even completely ignore submitted facts and authoritative statements.

4. Doctors, in some instances, have lost the confidence and acquired the antagonism of the public by overcharging for inferior or minor services. Such individual cases have reflected this attitude of the public and legislators to the entire profession.

5. Doctors, on the whole, fail to concern themselves with legislative problems that are of vital concern to them and their practice. They neglect establishing effective contacts with their senators and representatives. Upon numerous occasions when your Commission requested individual assistance we were met with evasive excuses and disinclination to aid.

6. Most of our County Societies failed to exercise their organizational influence. Local Legislative Committees half-heartedly discharged their duties and some there were that never functioned.

Your Commission might continue at length in citing incidents and experiences encountered that would be self-explanatory as to why proposed legislation is difficult of enactment and why our status in the Legislature is so nearly negligible—we refrain from doing so. Your Commission does, however, desire to bluntly set forth the following possibilities for informative purposes and as a warning as to what may be expected from future Legislatures if our members continue to pursue their present course:

1. Osteopaths will obtain legislation granting them all the rights to practice medicine, surgery and obstetrics under an independent board and with low educational requirements. This will open the door to hundreds of incompetents who will rush to our state and prey upon an unenlightened public.

2. Chiropractors and other cults will gain recognition with ever-increasing practice privileges.

3. Optometrists, chiropodists and similar present-day groups will gain certain medical practice privileges.

4. Hospitals will, by legislation, be compelled to admit patients under the care of cultists.

5. Cultists will gain public office and supervise, through such office, health preventive measures and methods.

Your Commission disclaims any charge of exaggerated apprehensiveness. We are positive in our conviction that such eventualities are at our doorstep. The door will be opened wide unless we, as individuals and as an organization, arouse ourselves to greater aggressive efforts. These cultists and aspiring pseudo-scientists are organized, active, persistent and determined. They contribute large sums to finance their quest and employ shrewd attorneys and lobbyists in their endeavor to secure legislative recognition.

Your Commission desires to make the following general recommendations for your consideration:

1. That the Legislative Commission's report be accepted and the Commission be discharged.

2. That the president appoint a new Legislative Committee, by and with the advice of the Council, with the State Secretary as an ex-officio head of the committee.

3. That the Legislative Committee be instructed to conduct a lay educational campaign and comply with the provisions of our by-laws.

4. That the Legislative Committee be instructed to attempt to secure at least two representatives of the profession in the Senate and two in the House.

5. That the Council request the Joint Committee on Public Education to arrange a series of talks related to Medical Legislation and impart them through their channels of public contact.

Your Commission respectfully tenders these recommendations with uttermost urgency, recognizing fully that to fail and not assume such aggressiveness will invite the realization of our prophecy.

This is respectfully submitted and signed by the entire Commission.

Submitted by:

GUY L. KIEFER, Chairman.

C. F. McCLINTIC,

J. B. JACKSON.

W. H. MARSHALL,

J. W. McINTYRE,

J. W. SUNDWALL,

F. C. WARNSHIUS.

Dr. J. D. Brook (Kent): There is altogether too much meat in the Legislative Commission's report for us merely to accept it and place it on file.

Therefore, I move you that this report be referred to the proper committee with a request that we have a report from that committee at a subsequent meeting of the House.

Speaker Pyle: That is so recorded and I will impress on the committee to review it properly. There will be no motion necessary.

A. M. A. DELEGATES

We will now listen to the report of the Delegate to the A. M. A.

Dr. C. Moll (Genesee): Mr. Speaker and Members of the House of Delegates: Your delegation wishes to advise that the complete report of the proceedings of the eightieth annual session held in Portland, Oregon, on July 8 to 12, can be read in the issue of the Journal of July 20 and 27. We earnestly desire that every member of the Society read that report. We do not care to take the time here to do that, but we refer you to the most excellent abstract made of these minutes and published in the September issue of the Journal of your State Society.

There are, however, a few sidelights that are not published in the Journal, and reactions of the laity to our deliberations that are not only of interest, but should be a source of diligent thought and action and study on our parts.

I wish to read to you some quotations taken from the Portland papers during our session. I would say that never was a session of the American Medical Association so well represented in the light of the press of the country. The Associated Press had a special representative there and the Chicago Tribune had one, and there were one or two representatives of New York publications.

One of the things that caused a great deal of comment and quite a reaction was Dr. Thayer's opening address. I just wish to quote some of that:

"When in a country like ours the national government attempts to legislate for the whole country as to what we may or

may not eat or drink, as to how we may dress, as to our religious beliefs, or as to what we may or may not read, this is to interfere with the rights which are sacred to every English-speaking man. This is no longer a republican government; it is a tyranny."

It so happened that Dr. Wilson, who is the general secretary of the Methodist church board of temperance, prohibition and public morals of Washington, was sojourning in Portland at that time. That afternoon the Portland newspapers came out in large headlines, "Dr. Wilson attacks Dr. Thayer; charges he is Wet Booster. . . . The doctor replies to the doctor today on prohibition! Dr. William S. Thayer, president of the American Medical Association, holding its annual convention in Portland, opened the sessions of the House of Delegates of that body Monday with a stirring attack on intolerance and flayed prohibition.

"Dr. Clarence True Wilson, general secretary of the Methodist church board of temperance, prohibition and public morals, of Washington, D. C., in Portland for the summer, today struck back at Dr. Thayer, called him a 'wet' and charged him with being 'unpatriotic.'

"It's the Doctor of Divinity versus the Doctor of Medicine, with both men champions in their chosen fields.

"Dr. Clarence True Wilson—the Doctor of Divinity—prepared this statement for The Portland News, replying to Dr. William S. Thayer—the Doctor of Medicine—and challenging him to debate:

"'Dragging the legal and political question of prohibition into an annual address before the American Medical Society is a questionable proceeding, unpatriotic and out of the question.'"

Then he goes on with a lot of other things like that. The reply was in the paper the next day as follows: "The American Medical Association stands unanimously with its president, Dr. William S. Thayer, of Baltimore. So far as the nation's greatest doctors are concerned, Dr. Clarence True Wilson, chairman of the Methodist church board of temperance, prohibition and public morals is 'out'.

"This was the situation Wednesday at the continuation of the doctors' annual convention here, following a red-hot meeting Tuesday afternoon when Dr. Wilson's attack on Dr. Thayer came in for rough handling on the floor of the House of Delegates of the Medical Association.

"By a unanimous vote the House of

Delegates adopted the following committee report:

"'The committee especially commends and endorses the sentiments expressed by President Thayer concerning legislative enactments that are inimical to the best interests of the medical profession and public, by restricting medical men as to what and what not shall be prescribed for the relief of human ills.'"

I also wish to present what I later on clipped from the Portland Journal editorial page:

"The impromptu debate, if it may be called that, between Dr. William S. Thayer, president of the American Medical Association, and Dr. Clarence True Wilson, general secretary of the Methodist board of temperance, prohibition and public morals, is interesting and informative.

"Dr. Thayer represents the very high type of intellect. The emotional is submerged. He is by training a searcher for truth. It is his profession. He is not politically minded; few doctors are. He sees what he believes to be a great menace to American liberty; he understands history well enough to know that the English-speaking peoples have always, sooner or later, rebelled against tyranny. To him, prohibition is tyranny because it is interference with what he believes are his rights.

"Dr. Wilson is a different type. His appeal is chiefly emotional. He is a pastor; he is deeply religious. He carries his message to the people of the churches. Like many great leaders of his type, he is without tolerance for anyone who disagrees by the slightest margin with his particular prohibition views. If you do not accept his doctrine of prohibition, then you are a wet; you must be in the pay of the brewers; you are unpatriotic! Call out the marines!

"Both Dr. Wilson and Dr. Thayer are strong characters, though they are as far apart as the poles. Both are fighters, both are plain spoken. Dr. Thayer understands his history better than Dr. Wilson, but Dr. Wilson would have the greater appeal in a public meeting; he would sway more people. And both men are following to the chalk line the beliefs and principles that they think right; both are honestly devoting their lives to a cause—Dr. Wilson to prohibition, Dr. Thayer to the relief of human suffering."

Dr. Morgan, the President-elect, in his speech of acceptance, dwelt quite largely on the high cost of medical service and also

on advertising activities. Apropos of this I clipped this from one of the Portland papers written by Gordon H. Cilley. Mr. Cilley, after a thorough newspaper experience, was John Wanamaker's advertising manager for 16 years, and later advertising counsellor to Gimbel Brothers.

"The code of ethics of the medical profession has, since 400 B. C., had a considerable resemblance to the set ways of a stone wall. It began with the oath of Hippocrates, under which every physician is bound to honorable and moral conduct, and which is in a sense interpreted to mean that no physician shall advertise himself. At any rate, that is the defense that is made by the Chicago Medical Society for the expulsion of one of its most brilliant members a few weeks ago. There was a high old row about it, with the result that now, after 2,300 years, the stone wall may begin to move. The doctor in question had allowed his name to become connected with a semi-charitable clinic that rendered very low-priced medical service to the poor, and advertised that it did so. That is where they caught the doctor. He had violated ethics. Out with him! But that is not the last of it. The practice of medicine is one of the most intelligent, if not THE most intelligent of all the professions. Doctors are highly educated, they know a lot about human nature, and most of them are courageous. Some of them now are speaking up and saying that the Chicago episode was a piece of old foggy nonsense, and that the ethics of 400 B. C. have nothing to do with the march of progress and the cure of the human body of 1929. If a group of good doctors can get together and pool their affairs, their money and their skill, and can carry on a low-priced business, healing the sick among poor folks—is it ethics to prevent them? Curiously enough, it has been only 20 years since the banks wouldn't advertise. They held that it was dangerously undignified. But nowadays some of the best advertising that is printed comes from banks and trust companies, giving excellent advice to people about how to take care of their money. They print it in the newspapers, and do a lot of good, and after awhile, the doctors will do the same."

These are but a few of the many newspaper abstracts that appeared in the press of the country at that time. At no time in the history of organized medicine has there been so much scrutiny by critical and on the whole not an unsympathetic public press as today. It behooves all of

us to make these impressions, or other individual ones.

It is only by action and active co-operation that the members of our country can benefit. The American Medical Association can carry on its high ideals only in that way. (Applause).

Speaker Pyle: That is a novel and interesting report and it will be referred to the proper committee.

We now come under the caption of new business.

... Resolution presented by Dr. Biddle to be reported on later in the sessions. ...

... Invitation, through Dr. Gorsline, to attend the meeting of the Industrial Physicians and Surgeons. ...

... Introduction of resolution by Dr. J. D. Brook to be reported on later in the sessions. ...

... Introduction of resolution by Dr. William C. McCutcheon to be reported on later in the sessions. ...

... Introduction of resolution by Dr. Moll to be reported on later in the sessions. ...

... Announcements. ...

Speaker Pyle: Is there any other business, gentlemen, to come before us at this time?

Dr. Charles E. Dutchess (Wayne): Following our meeting at Lansing, which was two years ago, a committee was appointed to investigate the taking of paid patients at University Hospital. Their report was published later in the State Journal. I wish to inquire if any provision was made by the Council or any other branch of our Society for correcting the conditions which were complained of in that report.

Speaker Pyle: Dr. Stone, can you answer the gentleman's question?

Dr. Stone: I know of no provision other than the recommendations which were made by the committee. I understood that the University officials have in mind a means of correcting it to some extent. Just how far they have progressed in that I am not at all certain.

Speaker Pyle: Are there any other members wishing to discuss this inquiry?

Speaker Pyle: Is there any other business at this time, gentlemen?

Dr. Dutchess: To revert to the question that I asked a minute ago, I have just been informed that over the radio Dr. Cabot has been broadcasting the fact that they are accepting pay patients at Ann Arbor. I wish to offer a resolution that the Council consider what means may be

taken to curb the acceptance of pay patients at the University Hospital.

Dr. Andrews: I second that.

... The motion was carried. ...

Speaker Pyle: That will be referred to the Committee on Miscellaneous Business. Is there any further business?

... The meeting adjourned at twelve o'clock. ...

TUESDAY AFTERNOON SESSION

SEPTEMBER 17, 1929

The meeting convened at two-forty o'clock, Speaker Pyle presiding.

Speaker Pyle: The Secretary will call the roll.

Secretary Warnshuis: I move you that the slips I hold in my hand represent the second roll call of the House of Delegates.

Dr. Gorsline: I second the motion.

... The motion was carried. ...

Speaker Pyle: We now come to the report of Reference Committees. We will ask for a report from the Committee on the Report of Officers.

Dr. Andrews: The committee begs your indulgence for the short time allowed to review the papers, and wishes to touch on the salient points. If there are any corrections, your committee begs to be informed upon them.

Touching upon the President's address. Taking the first subject, that of lay education, the committee recommends that the Committee on Legislation and Public Policy be requested to review the suggestions on lay education as outlined by the President's paper and act in accordance.

I move this be adopted.

Dr. C. N. Bottum (Marquette): I second that motion.

... The motion was carried. ...

Dr. Andrews: The next subject was taxation without representation. The committee recommends that the House of Delegates wait until the next reapportionment of the House of Delegates of the American Medical Association before recommending that two delegates be appointed from Wayne County.

I move this be adopted.

... The motion was seconded. ...

Dr. Hirschman: There is no occasion there for any recommendation. It is clearly out of order for me or for you or for the Secretary to recommend to this Society, officially, how many delegates should be appointed from any county. It is merely a suggestion to the delegates, as

coming from one man to another. But officially that should not be recognized.

I mean by that that we cannot recognize officially the number of delegates which come from any county or any group. I say as a matter of justice a large group should be represented. In other words, there is no definite apportionment of so many to Wayne or Kent, but I think there is really no official action that can be taken on that recommendation. That is for the delegates to decide. There is no objection to the report.

Dr. Andrews: The Committee recommends that the House of Delegates wait until the next reapportionment of the House of Delegates of the American Medical Association before recommending that two delegates be appointed from Wayne County. That is what I moved.

Dr. Biddle: I move that that portion of the report be eliminated.

Dr. McClintic: I second that motion.

... The motion was carried. ...

Dr. Andrews: Secretaryship. The committee passes this subject without recommendation.

President-elect. The committee recommends that the office of President-elect be created and the constitution and by-laws be so amended.

I move the adoption of that section.

Dr. Bottum: I second the motion.

Speaker Pyle: Possibly that is not in order. If you move that a committee be appointed to revise the constitution it would be more in order.

Dr. Andrews: I was merely moving that the recommendation be adopted.

Ex-presidents. The committee recommends that a consulting board of Ex-presidents be created and a resolution to that effect be adopted.

Dr. Bottum: I second the motion.

Speaker Pyle: These are recommendations and should be put in the form of a motion so that the meeting will be clear on the matter.

Dr. Andrews: The committee recommends that a consulting board of Ex-presidents be created and that a resolution be adopted to create that board.

Dr. Hirschman touched upon these points in his paper. He recommended a board of consulting Ex-presidents be created and that a resolution be adopted to create that board.

Dr. Moll: I think it would be a very good idea to get the opinion of all the members of this House of Delegates on

that. That discussion would act as a guide to the committee. If they see how the members at large feel about this matter, it will be far easier for them to come to a conclusion that will meet with the approval of all. I take pleasure in seconding that motion.

Speaker Pyle: Is there any discussion of that motion?

Dr. Henry R. Carstens (Wayne): Wouldn't it be proper to refer it to the committee on Revision of Constitution and By-Laws, if that is authorized? There are quite a few things to discuss, such as whether this is a final formal advisory board, or if it is only for a certain period of years. They will be definitely members of the governing bodies. That could be taken up by the committee, if that is authorized, and whenever it is appointed.

Speaker Pyle: We, as a House of Delegates, cannot add delegates to this county and we cannot create a board. We must revise our constitution and by-laws. I feel the motion should be such that we can refer these recommendations to that committee if I am authorized to appoint it in order that it may take up that matter.

Dr. B. R. Corbus (Grand Rapids): That suggestion to have a committee of Ex-presidents has a certain sentimental appeal. But, as a practical thing I am inclined to question it. Certainly, we want to feel at liberty to call on the Ex-presidents and we will find it necessary, as a Council, to call on the Ex-presidents frequently. However, I do not feel that we are going to get very much farther cluttering things up with a Committee of Ex-presidents whom we have the privilege of calling upon as individuals at any time.

It would seem to me that the way to dispose of this is to put it up to the committee that has to do with the constitution and by-laws and let them consider it very carefully as to whether we want to add more timber to what we now have.

Dr. Hirschman: May I explain the purpose of that? As I mentioned in my address, when a man has been the president of a society he has been in intimate contact with all the activities of it and he is possessed of a certain amount of knowledge and experience which really should not be lost to the society. I am sorry that I have to speak of this as I am the next impending Ex-president.

However, I am thinking of men like Burr, who have been doing great things and who are still willing to serve. It isn't my idea to encumber the Society, but I

think, in matters of ethics, finance, legislation and matters where you want all the attention of men who have been intimately associated with the activities of the Society for a long time, perhaps their opinions, mentally, morally, physically, or financially, may be of some value to the Society merely as a sort of reservoir to draw on in case of necessity.

I thought they really should be tied up in some way with the activities of the Society. I was agreeably surprised when Dr. McCormack mentioned that they have such an organization in Kentucky. He told me of that. I hadn't heard of it. They do use those men for the same purpose for which it is our intention to use them.

Dr. R. C. Stone (Battle Creek): I rise to emphasize what Dr. Corbus has already said to you. During the past eight or nine years, since I have been a member of the Council, invariably the past presidents, and numerous other members of the Society, whose knowledge of the affairs of the Society have been valuable, have been consulted.

I think, along with Dr. Corbus, that that is a sentimental idea, the practicability of which is somewhat questioned by me. I know the personnel of the Council will always feel at liberty to take advantage of every opportunity to consult men who have definite knowledge upon any definite subject concerning the activities of the Society.

Dr. Brook: Is there a motion before the house?

Speaker Pyle: Yes, the way I understand the motion it is a recommendation to the committee that is to be appointed later.

Dr. Stanley W. Insley (Wayne): May I make a motion that we adopt that committee and let this go through?

Speaker Pyle: The way the chair understands this it is a recommendation to a committee that such a group of Ex-presidents be created.

Dr. Andrews: We recommend that a resolution be adopted to create that board.

Secretary: May I clear up the Speaker on that, the matter of the committee to revise the constitution and by-laws has been acted upon. Therefore, you are not going to stray by giving it to this committee.

Dr. Andrews: The recommendation, then, is that the committee recommends that a consulting board of Ex-presidents be created and a resolution be adopted to create the board, and that resolution be

sent to the committee on Revision of the Constitution and By-Laws, if such a committee is appointed.

Dr. Brook: We are now up to the portion that I wished to speak on. I would like to move that this portion of the report of the committee be referred to the Committee on Revision of Constitution and By-Laws.

I would ask now if that motion is in order.

Speaker Pyle: Dr. Andrews has made a motion. If you wish to amend it, Dr. Brook, you can.

Dr. Brook: It cannot be done because this motion is in contradiction to his motion.

Dr. Andrews: If the chair so desires I will withdraw the motion and request that Dr. Brook place his motion before the house.

Speaker Pyle: Then Dr. Brook's motion is that this portion of the committee report be referred to the Committee on Revision of the Constitution and By-Laws, if such a committee is appointed.

Dr. Cassidy: I second the motion.

... The motion was carried. ...

Dr. Andrews: Vice Presidents. The committee recommends that Vice Presidents be actively engaged, with the Councilors in sectional matters and the committee also recommends that the state be divided into four sections and the Vice Presidents be sectionally chosen.

I move that that recommendation be adopted.

Dr. McClintic: I second the motion.

Speaker Pyle: The chair will entertain discussion at this time.

Dr. McClintic: I would move that this portion of the report be referred to the prospective committee on Constitution and By-Laws.

Dr. Basil L. Connelly (Wayne): Wouldn't it be a wise plan to call for the report of this other committee and find out what that committee has done and then have the report of this committee? We will then not have to refer these things to a committee that is not yet appointed or authorized.

I move that we hear the report of the committee regarding the appointment of a committee for the revision of the Constitution and By-Laws.

... The motion was seconded and carried. ...

Dr. Andrews: We have reviewed this

matter and have attempted to make these recommendations. Right at the present time I am at a loss to know whether I had better go on with these or not. I do not know what they do want. I am somewhat at sea.

Dr. A. W. Hornbogen (Marquette): I think we are acting entirely upon the recommendations of our President. These recommendations are to be placed before us as the recommendations of the committee. It is up to the house to accept or turn them down. It is immaterial to the committee which you do. It is up to you people to do it. We are acting on the recommendation of the President.

Dr. Andrews: I will continue with the report.

In touching upon the Speaker's address the committee recommends that the subject of lay education, which has been touched upon in the President's address, be followed as outlined. If you will remember, the committee recommended that this be turned over to the Committee on Legislation and Public Policy, they being requested to review the suggestions on lay education as outlined by the President's paper and act accordingly.

I move that this recommendation be adopted.

Dr. Hornbogen: I second the motion.

... The motion was carried. ...

Dr. Andrews: The committee recommends that the Constitution and By-Laws be revised and that a committee of five be appointed by the Speaker.

I move that recommendation be adopted.

Speaker Pyle: That is in conflict with another resolution.

Dr. Brook: The other resolution mentioned a committee of three. I want to defend that particular number, three. The larger this committee is, the worse it gets to do the job. The fewer you have with experienced heads, the better the job will be done. I think three should be the number as mentioned.

Speaker Pyle: That motion was carried awhile ago. However, the gentleman has a right to reconsider that motion or make a motion to take that one's place.

Dr. Andrews: I will withdraw mine.

The committee recognizes the suggestion for President-elect in the Speaker's paper and has made provision for same.

The recommendation is that the five recommendations of the Legislative Commission be adopted as read.

I move that that be done.

Dr. Hornbogen: I second the motion.

Dr. Andrews: The five recommendations that were contained in the report of the Legislative Commission are as follows:

1. That the Legislative Commission's report be accepted and the Commission be discharged.

2. That the President appoint a new Legislative Committee by and with the advice of the Council, with the State Secretary as ex-officio head of the committee.

3. That the Legislative Committee be instructed to conduct a lay educational campaign and comply with the provisions of our by-laws.

4. That the Legislative Committee be instructed to attempt to secure at least two representatives of the profession in the senate and the house.

5. That the Council request the Joint Committee on Public Education to arrange a series of talks related to medical legislation and impart them through their channels of public contact.

Speaker Pyle: You have heard the motion and the different points.

Dr. McClintic: I merely want to raise one question on one of the recommendations. It occurs to me that we shouldn't tie the Speaker's hands in appointing the chairman of this committee. It says that the Secretary shall be ex-officio head of the committee. Something might happen that Dr. Warnhuis might not be able to be the chairman of this committee. It seems to me that it should be left so that if the Speaker so desires the Secretary may be made chairman ex-officio. It seems to me that that restriction should not be imposed.

I move that that portion of the recommendation be stricken out.

... The motion was seconded and carried. ...

Speaker Pyle: Now we will vote on the resolution to the effect that these points as a whole, as amended by Dr. McClintic, be adopted. Is there any discussion?

... The amended motion was carried. ...

Dr. Andrews: The Industrial Committee report. The committee recommends that the report of the Industrial Committee be accepted and the resolutions be adopted as printed, the same committee being retained.

The Committee on Medical History. The committee recommends that a vote of thanks be given Dr. Burr and also requests that all possible aid be given him.

I move that that recommendation be adopted.

Dr. H. B. Garner (Wayne): I second the motion.

... The motion was carried. ...

Dr. Burr: I am entirely out of order in speaking here, but may the balance of the committee be included in that resolution?

Speaker Pyle: I think the chair will let that go without a vote that the whole committee might be included.

Dr. Andrews: I move that the report of this committee be accepted and the committee be discharged.

Dr. Hornbogen: I second the motion.

... The motion was carried. ...

Speaker Pyle: We will now listen to the report of the Committee on Miscellaneous Business. Dr. Shaw, Lansing.

Dr. Milton Shaw (Lansing): Your Committee on Miscellaneous Business makes the following report:

Resolution by Dr. Moll, reading as follows:

"Whereas, The American Medical Association and the American Bar Association have under consideration a reform in law and judicial procedure that will eliminate the present methods of obtaining and introducing medical expert testimony, therefore be it

"Resolved, That our President be instructed to appoint a special committee of five to confer with a similar committee of the Michigan Bar Association for the purpose of securing the introduction in the next session of our Legislature the specific recommendations that emanate from the National Conference and thereby early accomplish this reform in our Michigan courts."

Your committee recommends the adoption of the resolution, and I move its adoption.

Dr. A. J. MacKenzie (Port Huron): I second the motion.

Dr. Cassidy: Who is going to do the selecting of the various members, who is going to qualify as an expert, and how is he going to do it? That is the stumbling block there. Who is going to pass on the men, the names that you are going to give to the law makers, or the judicial people, as to the qualifications of that individual as an expert in the courts?

Secretary: May I answer Dr. Cassidy?

This resolution is in conformity with national legislation. The American Bar Association has appointed a committee on revision of judicial practice in the admission

of expert testimony in any trial. At the request of the American Bar Association the American Medical Association also appointed a national committee. These two national committees are appointing state committees that study and investigate the state laws and procedures in expert testimony in court procedure.

The intent of this motion is to conform and join in the work of the National Bar Association and the American Medical Association so that there will be some type of uniform legislation made by the Legislatures of the country which will guide the courts in the admission of expert testimony and be rules of practice.

That is as far as that goes. The State Medical Society, the American Medical Association, and the Bar Association are not going to say whether Dr. Cassidy or Dr. Pyle, or any other doctor is capable of being expert witnesses, but they are going to specify the qualifications, in general, then if you want to become an expert witness they must be met or you cannot be an expert witness. That is the idea of the resolution.

Speaker Pyle: Is there any further discussion?

... The motion was carried. ...

Dr. Shaw: The second resolution is that of Dr. McCutcheon as follows:

"Whereas, The American Medical Association will hold its 1930 Annual Session in the city of Detroit, and

"Whereas, The profession of Michigan is desirous of participating in the honor of being hosts to the profession of the nation, therefore be it

"Resolved, That our five delegates, our President and the Chairman of the Council be constituted as an Advisory Committee to the Detroit Local Committee on Arrangements."

Your committee recommends the adoption of that, and I move its adoption.

Dr. Cassidy: I second the motion.

... The motion was carried. ...

Dr. Shaw: The third resolution is that of Dr. Biddle, which is as follows:

"Whereas, The Board of Trustees of the American Medical Association has been authorized to develop plans for a new headquarters building and to formulate a financial program that will enable our National Association to erect such a building of monumental type, therefore be it

"Resolved, That the Council of the Michigan State Medical Society be instructed to appropriate from our reserve funds a

reasonable sum and tender the same to the trustees of the American Medical Association as Michigan's contribution to the historical and memorial portion of the new monumental building."

Your committee, therefore, recommends that the Council be instructed to appropriate a reasonable sum for this purpose, and I move the adoption of the report.

Dr. John Wessinger (Washtenaw): I second the motion.

Speaker Pyle: I have just been asked what a reasonable amount is.

Dr. Shaw: That is left to the discretion of the Council.

Dr. McClintic: I feel that we should have a little more information on this as to what this memorial is to cost and as to how it is to be financed. Are the constituent State Societies going to build the memorial? If they are, it means that we will have to come in for a proportionate share. Or, are they going to build from another source? I feel we should have some idea as to what is meant by a reasonable sum. That is entirely too indefinite.

Dr. Biddle: I would call upon Dr. Warnshuis to speak on that and inform the House of Delegates as to the purpose of this sum of money to be raised, and so forth.

Secretary: You have read the report of the trustees of the American Medical Association, rendered at the Portland meeting this last July. That board has recommended to the profession of the country the need of an enlargement of headquarters buildings in Chicago. There has been a considerable amount of sentiment regarding that building, that has been expressed by various state organizations.

At the present time we have a building which they feel is below the dignity of the profession of medicine. You will also recall that the American College of Surgeons has a very wonderful and remarkably beautiful building.

The ground has been purchased for erecting an addition to our present headquarters in Chicago. The idea is to make this somewhat of a memorial type so that it will stand for all time, as an emblem of the American medical profession.

The American Medical Association realizes that this building is going to cost several million dollars. They have made provision for the collection of some of that amount. It is the intent, I believe, of the trustees of the American Medical Association

tion to assume the obligation of the entire cost of that building, but the suggestion was made at Portland, and is being tendered to the various State Societies, that they would like to participate in doing something, possibly, in the way of a window, maybe, or a chandelier, or a picture of some sort probably of our leading men in the profession in Michigan, maybe a Council table as a contribution to that memorial building, so that the members of Michigan, as well as those of North Carolina, New York, or California, will have a little more personal interest in that building and so that there will be a little sentiment connected with it.

I do not take it that it is contemplated to contribute \$1,000, \$5,000 or \$25,000. I imagine that the Council, conserving, as it has always done, the finances of the Society, will set a reasonable amount and yet one that will be commensurate with the dignity of the profession of Michigan. They might wish to give them a water pitcher. (Laughter). But, anyway, it is something along that line.

Dr. Biddle: I would like to hear from Dr. Hornbogen.

Dr. Hornbogen: Dr. Warnshuis has covered that entirely, that we need an enlargement of the space in order to handle all the different lines that we are following in the city of Chicago. We need a much larger building for our headquarters office than we have at the present time.

The plan of the trustees is to build a building that will be not for this year or next year, but one that will be for a good many years to come. As I understand it from the Secretary, and also from the Editor, our space is altogether too inadequate. The idea was conceived to build it high enough and big enough to house the entire offices of the American Medical Association and at the same time be emblematic of the American Medical Association.

I wish this House of Delegates would take proper action upon this motion.

... The motion was carried. ...

Dr. Shaw: The next resolution is that offered by Dr. Brook:

"Whereas, Some five years have elapsed since our Constitution and By-Laws have been revised, and

"Whereas, Some obsolete provisions therefore exist in our Constitution and By-Laws, while other provisions to conform to our organizational activities are a necessity, therefore be it

"Resolved, That the speaker be author-

ized to appoint a special committee of three who shall redraft our present Constitution and By-Laws and present their report at the second session of the next annual meeting of this House of Delegates and that the consideration of their report be a special order of business of that session and further, be it

"Resolved, That this resolution be considered as a special notice of intended revision and that the committee will cause their revised draft to be published in the Journal one month before the 1930 annual meeting."

I move the adoption of that resolution.

... The motion was seconded and carried. ...

Dr. Shaw: The next is the resolution by Dr. Dutchess inviting inquiry relative to acceptance of pay patients at the University of Michigan Hospital, contrary to the recommendations of the State Society Special Committee on Clinics and Hospitals.

The committee, after discussing this matter with the Council, recommends that the spokesman for the Council be asked to make a statement giving the Council's view of the existing situation.

I move the adoption of that report.

Dr. Wessinger: I second the motion.

Speaker Pyle: Is there anyone from the Council here to discuss this before us?

Dr. Shaw: The motion is that the committee, after discussing this matter with the Council, recommends that the spokesman for the Council be asked to make a statement giving the Council's view of the existing situation.

... The motion was carried. ...

Dr. Shaw: I move the adoption of the report as a whole.

Dr. Gorsline: I second the motion.

... The motion was carried. ...

Speaker Pyle: If the house so wishes we might listen to the Chairman of the Council, Dr. Stone.

Dr. Stone: Mr. Speaker, Dr. Bruce will act as spokesman for the Council in answering this question.

Dr. J. D. Bruce (Ann Arbor): Mr. Speaker and Gentlemen: On the presentation of the report last year Dr. Smith came to see me at the University with reference to discussing the proper method of bringing the matter before the University authorities, that is, the matter of findings and the recommendations of the committee.

We took the matter up with Dr. Sawyer

at that time, the senior member of the board, and the medical member of the board, and it was his opinion that due to the fact that unrest obtained at that time in administrative circles in Ann Arbor, particularly with reference to the position of the President of the University, because of certain views that he held, it would be unwise to bring the matter of this report up for a decision before the board at that time.

Since that time President Little has resigned. We will soon, I hope, have a new administration. It is Dr. Sawyer's wish to bring the matter of the recommendation of this committee before the Board of Regents at the earliest possible opportunity after the new administration is in.

My own personal opinion is that this has been wisely dealt with. The Society, as a whole, has been patient with reference to this matter. I think a little further exercise of patience will eventuate in some worth-while consideration of the opinions expressed in this committee and supported by this House.

I thank you. (Applause).

Speaker Pyle: We will now listen to Dr. Whittaker of Detroit.

Dr. A. H. Whittaker (Wayne): I would like to mention that during the last few months we have made a rather careful study of the situation that Dr. Bruce mentioned. We wanted to make a rather full report on it. However, I had a conversation with Dr. Bruce and from what he said it might be just as well not to bring up the report at all.

I would like to bring to the attention of the delegates today that the ones who have been working on the situation expect to keep it in mind and as soon as there is a change in administration, if there is no action taken on the subject, we expect to bring it to the attention of the officers of the Society.

I think some change will come about before the next meeting of the House of Delegates of the Michigan Medical Society.

Speaker Pyle: Is there any further discussion?

Dr. D. J. Leithauser (Wayne): I wonder if it wouldn't be possible to have them discontinue the radio talks from Ann Arbor stating that they are now taking care of paid cases and that they admit everybody.

Speaker Pyle: That might be better discussed under the head of miscellaneous

business. I will entertain a motion like that after the regular order.

Dr. Leithauser: I thought it might be answered now as long as it is under discussion. I do not see why we shouldn't have an answer on it now.

Speaker Pyle: Does anyone wish to discuss that?

Dr. Carstens: I believe the very able committee of Dr. Smith's last year was continued and they have maintained contact with the situation. I wonder if it wouldn't be well to continue the committee, or re-appoint them if necessary, directing Dr. Smith to continue maintaining contact with the situation and have him make a further report next year.

The recommendation of Dr. Leithauser might be appropriately referred to that committee for investigation and consideration. That committee was a very able one and it went into this matter very thoroughly. They are working on it.

Speaker Pyle: Let us put a definite question before the house, a motion of some kind, and then we will have a regular discussion. Does anyone wish to make a motion regarding this point?

Dr. Leithauser: I wish to make a motion that their radio talks from the University on this subject be discontinued until the new administration comes in.

Speaker Pyle: The House of Delegates cannot stop radio talks. The chair feels it is in order that some committee see the people responsible for the offence, if it is one, and make certain recommendations.

Dr. Bruce: May I say a word or two on that?

I do not think it is fully understood—the present status of this question. Dr. Smith and his committee were continued last year. I wish to correct that impression, they have been doing something. They have been in touch with the situation. It is Dr. Smith's feeling that—or wish, I might say—you see I have discussed the matter with him—that the matter be left in the state in which it is now and he is willing and will report as soon as what they consider appropriate action can be taken.

With reference to the suggestion that was made a moment ago: I really think we would make ourselves rather ridiculous if we brought this question up at this time. We know that that question has been mentioned only on one occasion, the matter of the paid patients at the University Hospital. That is not in accord with the spirit

of the resolution and will be dealt with as a whole.

My feeling is that within the next sixty days some action will be taken. I do not know whether it will be favorable to the resolution or not, I have no means of knowing. I do know this, that Dr. Sawyer proposes to bring the whole matter before the Board of Regents and some kind of action will be taken. What that action will be I am not prepared to say.

However, I do feel that it isn't going to help the situation at all for us to make any further moves at this time because, with the gentlemen who have spoken, I think we will all agree that the matter is in good hands when it is in the hands of the very capable committee that has charge of it at the present time.

Speaker Pyle: The member could make a motion that you recommend certain things to the committee. A motion of that kind would be in order if any delegate feels that is necessary. Is there any further discussion on this subject?

Dr. L. O. Geib (Wayne): I make a motion that the House of Delegates disapprove the action of the University of Michigan Hospital in soliciting paid patients for the hospital over the radio.

... The motion was seconded. ...

Speaker Pyle: Is there any discussion?

... The result of the vote was in doubt. ...

The result of a rising vote was as follows:

For the motion	21
Opposed	14

Speaker Pyle: The motion is carried.

Speaker Pyle: We will now listen to the report of the committee on the report of the Council.

Dr. McClintic: Your committee begs leave to recommend:

First: That the House of Delegates commend the sincere, conscientious, efficient and intelligent manner in which the Council has conducted the affairs of the Society during the past year.

Second: The committee begs leave to call the attention of the House of Delegates to the sound financial condition of the Society as indicated in the report of the Council.

Third: The House of Delegates should commend the Council for the advancement made in the work of post-graduate education and would suggest that the House of Delegates at this time give consideration

to the plan of having the Council lend its aid to the further realization of the aims of the Michigan State Medical Society in the ultimate establishment of an institution for the purpose of clinical research and post-graduate medical teaching.

That is the recommendation of the committee and we beg to put it before the house. We would like to move that the House of Delegates do, at this time, take up this matter of establishing a post-graduate institution of education.

... The motion was seconded and carried. ...

Dr. McClintic: The committee recommends the election to Honorary Membership the following:

Dr. R. N. Eccles, Blissfield, Lenawee County.

Dr. A. M. Hume, Owosso, Shiawassee County.

Dr. Van Horn, Otsego.

Dr. C. B. Wasson, Bellevue, Eaton County.

Dr. H. B. Robinson, Manistee, Manistee County.

I move the election of these physicians to Honorary Membership in the Michigan State Medical Society.

Dr. Stone: It seems to me that the name of Dr. W. L. Godfrey of Battle Creek should be included.

Secretary Warnshuis: That was written on the side of the report. It probably was merely overlooked in the reading.

... The motion was seconded and was carried. ...

Dr. McClintic: The committee further recommends that the House of Delegates give special consideration to the conditions referred to in Dr. West's report, which is incorporated in the report of the Council concerning fewer and more compact organizations as opposed to the multiplicity of societies which divide and subdivide our official societies into sub-groups to the detriment of the parent organizations and that a resolution, as suggested by the Council, be adopted and that such steps as are necessary be taken to carry the resolution into effect.

The Council recommendation was that a proper resolution be adopted expressing the desirability of the County Societies taking such action relating to the practice of medicine and public health welfare in the counties.

I move the adoption of this resolution.

... The motion was seconded and carried. ...

Dr. Leithauser: Does that eliminate all the Societies?

Dr. McClintic: The Council is recommending that the resolution should be adopted so that it will bring the County Societies into leadership in all the problems relating to medicine and public health welfare in the counties.

Next is that measures be taken to make the standards recommended by the American Medical Association, the standards for hospitals as regards buildings, equipment, service, staff meetings and clinical conferences instead of having two standards as at present.

We might explain that by saying that at present there are two committees in existence which presumably standardize hospitals. One is that of the American Medical Association, in association with the American Medical Colleges, and there is that of the American College of Physicians and Surgeons. At present hospitals have to conform to both of those standards. We want to have the approval of the American Medical Association so that there will be only one standard. There is now one condition which the College of Surgeons have to approve.

In other words, the medical schools only recognize work done in a hospital approved by the American Medical Association. On the other hand, the state boards only recognize an internship served in a hospital approved by the American College of Surgeons. The purpose of the resolution is that some measure should be taken whereby this may be corrected. Either we want the American Medical Association to say what constitutes a proper hospital for an interne, or we want the College of Surgeons to say so.

Dr. Brook: Which does the committee recommend?

Mr. McClintic: The American Medical Association.

Speaker Pyle: What process would you suggest to the assembly to go about this in order to make it effective? Do you put this in the form of a resolution?

Secretary: That is for your officers and Council to carry out.

Dr. McClintic: Let the House of Delegates decide.

Dr. Cassidy: How are the House of Delegates going to have anything to do with the College of Surgeons? The original standardization of hospitals was done by the American College of Surgeons and not by the American Medical Association.

Are you going to push them back now and say that the American Medical Association should step in? There is a difference in the report of each institution. The American College of Surgeons report embodies considerably more than the American Medical Association report.

Dr. Leithauser: Is there a fundamental difference?

Dr. Cassidy: Maybe Dr. McClintic can tell us.

Dr. McClintic: The matter came up in this report. I do not think it is a small problem. Dr. Bruce can probably enlighten us on this. I do not think it is a small problem at all to get the two standards in conformity. I know perfectly well that the graduate medical man serving an internship has a lot of trouble. He may go into a hospital that is approved by the surgeons and the state board will accept him, but his college will not graduate him even though he has served that internship because it happens that that hospital is not approved by the American Medical Association Committee on Hospitals. It is a question to be ironed out and we should take steps to iron out the difference.

Dr. Hornbogen: I think if you will take the trouble to read the report of a number of hospitals that are credited under the American Medical Association in the United States you will find that almost every institution in the United States is included as recommended by the American Medical Association with the exception of a very few minor institutions that never expect to have an interne.

I consider that the rating given by the American College of Surgeons is much more stringent than that given by the American Medical Association or by the American Hospital Association. I cannot see why any state board of registration of medicine should not accept the internship in any hospital under the rating of the American College of Surgeons. I consider that their regulations are much more stringent than those of the American Medical Association. The American Medical Association has almost every hospital in the country that can really be called a hospital.

Speaker Pyle: There is no motion as yet before the house, gentlemen.

Dr. A. D. Allen (Bay City): Out of all the hospitals in the United States that I have had the occasion to look this up in, there are about 600 hospitals that are rec-

ognized by the American Medical Association as fit for teaching. They require the things the American Medical Association requires.

The thing that brought this up for a discussion in the committee meeting was the number of meetings that you have to have in a hospital to comply with the two standardizations. That is the question that we wish to bring before the House. They have one standard rather than two standards. We wish to bring that before you at this time.

Dr. McClintic: I think this should be taken under consideration and there should be a report on it to the next House of Delegates.

I would move that that recommendation be thus accepted.

. . . The motion was seconded and carried. . . .

Dr. McClintic: The Michigan State Medical Society is to be congratulated upon the high type of executives and business men who compose its Council, to say nothing of their high professional and ethical standards.

The affairs of the Society are in safe and sane hands and the committee recommends the adoption of the report of the Council as a whole and asks that special consideration be given by the House of Delegates to the matters above suggested in this report.

Speaker Pyle: Is there any other business, or are there any committee reports?

Secretary: May I call the attention of the delegates from the Thirteenth and Fourteenth Districts to the provision in our by-laws for the nominations of Councillors whose terms have expired? Nominations are made by the delegates from these districts and are tendered by them to the House at the election this evening. Consequently the delegates from those two districts should get together sometime this afternoon, or before the meeting tonight, and tender their nominations at the proper time this evening.

A request has come to the House of Delegates from a group of our members from South Haven. They are, and have been for the past six months, confronted with a rather serious problem, a problem that sooner or later, as has been intimated by the Legislative Commission, is going to come before every hospital in the country, that is the admission of cultists to take care of patients in that hospital.

The profession at South Haven is in a turmoil with their Board of Supervisors

and City Council regarding the admission of the patients of cultists. Dr. Penoyer representing the profession of South Haven, has come before this House asking the privilege of the floor in order that he may state to you the problem with which they are contending and to secure your advice to guide them in their deliberations and negotiations with their Supervisors and Council.

Dr. Andrews: I move you that Dr. Penoyer be given the privilege to speak before the House.

. . . The motion was seconded and carried. . . .

Speaker Pyle: We will listen to Dr. Penoyer.

Dr. Penoyer: Mr. Speaker and House of Delegates: This matter began about six months ago. At that time I had been recently appointed to our local Hospital Board. I am now serving on that board as Vice President. However, I am here merely as a physician and not as a member of that board.

I was astonished first to know that the osteopath there was asking to bring his cases to that institution. Prior to that time I didn't know what an osteopath was. I wrote a letter to Dr. Warnhuis. He very clearly and concisely stated what an osteopath was. However, as soon as I showed his letter down there in our city I was informed that Dr. Warnhuis didn't know what he was talking about. (Laughter). Therefore, I have a lot of matter that I am going to try to hurry over so I can give you the gist of the matter.

Subsequent to that I wrote to Dr. Connor, the Secretary of the State Board of Registration. I merely asked Dr. Connor if this man was registered there. I knew he wasn't. I got a reply in the negative, that he was not. However, he sent me a lot of copies of laws. I couldn't, and no one else seemed to be able to make much of those.

Apparently, the law is ambiguous or lacking. Following that I wrote to their own registrar, to their own board. At first they weren't even courteous enough to answer me on their own stationery, but merely added a postscript to my letter. He negatived everything I asked him. Therefore, I asked him to be more specific. Then he favored me with his own stationery. He said that he was enclosing a pamphlet of their law and asked me to kindly return it because it was the only one that he had.

That says that there has been a court

decision allowing osteopaths to practice all forms of surgery. There has never been any question about osteopaths having a privilege of practicing obstetrics or giving anesthetics.

I asked a question on that and I wanted to know what he would do. I am informed, however, that they can do all of that and that they can even do surgery. I have seen some circumcisions and things like that.

Following that I communicated with Dr. Warnshuis. He advised me to communicate with the American Medical Association and said I should come down to this meeting.

The American Medical Association really sent me a very wonderful report. I thought, when I read that, that I had everything licked right there. Our city attorney, who hadn't entered all of this, read the American Medical Association report and informed me that they were all wet.

Our situation there, as I see it, is: Is an osteopath allowed, according to the laws of the state of Michigan, to practice obstetrics, or to give medicine of any type regardless of what method may be given? I think our local problem there is: Can a hospital, or a city hospital—if I make myself clear—select its own staff, or have they no privilege of selecting their staff? That is really our problem, the selecting of our staff.

Yesterday, prior to coming here, I again consulted with the city attorney. He told me that this House of Delegates had nothing to do with that fight, that it was our own problem down there, that this State Society, or these groups of men here have nothing whatsoever to do and they cannot come down there and enter into this. That is why I wanted to make myself clear that I am here as a physician and not as a member of that staff. As a member of that staff, of course, I have to take the opinion of our city attorney. Therefore, I am not here in any way related to our Hospital Board, but merely as a physician.

All of the physicians there, of which there are four, are of the same opinion as I. We have said that we want to put it, as a group, before the Hospital Board, which consists of a group of laymen. They have asked us whether our fight was against the osteopaths as individuals, or as a cult, and they have also asked us what right we had to tell our patients who may

or may not come into that hospital and be cared for by this person or that person.

We have told them that if it wasn't our legal right it was at least our moral obligation to protect our community from people coming into that institution and have our city put a stamp of approval on those cult people by admitting them into the institution. They have laughed at us, saying that we were assuming an awful lot when we assumed the moral responsibility of a community as a whole because we had not in any way been delegated to that responsibility.

Dr. George Hafford (Calhoun): Is yours a municipal hospital?

Dr. Penoyer: Yes.

Speaker Pyle: The Secretary mentioned that they had trouble of this kind in Jackson. Is that right, Dr. Riley? How did you handle it?

Dr. Philip Riley (Jackson): We had some patients in the hospital where the people were Faith Healers. They wanted to bring the chiropractor in and they asked me if it was all right. I said "No." They went to the superintendent of the hospital and she said "No." Then they went down to the City Commissioner, I guess, to get action and allow them in. In the meantime the patient died. (Laughter).

We had another situation. We had a man in town who said he had gotten an M. D. from some place in Georgia. He got this degree about 1903 or 1904. He took up osteopathy and worked on that. Then he decided it wasn't very profitable, so he tried for a reciprocity. The board denied him, but I guess he got it through the court. Now he practices osteopathy and surgery and anything that he cares to in the city hospital, but they do not allow him in the Sisters' Hospital.

Dr. Hafford: I don't know whether you would be interested in this or not. We have a hospital that is about the same size as his, but we are on the competitive list of the College of Surgeons. The osteopaths and chiropractors have been sort of forcing it with some of the friends of the cults, but when they applied they were told that they had to have a standing and we couldn't let them in because we would lose our standing in the College of Surgeons. In other words, we would not be a medical hospital if they were allowed to practice in there. We got rid of those. So far none of the members of the profession are on the Hospital Board. The Hos-

pital Board is a lay board. We have carried on all right so far.

Another thing came up the other day. We have a couple of colored physicians who came in recently and who wanted to bring patients to the hospital. They were informed that they could only bring them in when they were under the supervision of one of the regular staff of the hospital.

Speaker Pyle: If it is not out of order and if the members have no objection, the chair would like to hear from Dr. Connor of the State Board of Registration, if he is willing to discuss this.

Dr. Connor: I haven't very much to say. I will say this, however, that as far as the Michigan Board is concerned we have all the hospitals on the list of the American Medical Association except one, and that is purely for colored people and colored doctors. I took that up with Caldwell and he thought it was a good idea to give these colored fellows a chance for interne service. We do not have much trouble.

For instance, in a small hospital like some of those mentioned, all we want is a man to get reasonable training so that when he gets through he will make a reasonably good doctor. That was one reason why the board some years ago instituted a service so that the man will not be limited to small service only for the first year. If he wants to be a specialist it is a good idea for him to spend more than a year in the hospital.

Speaker Pyle: Does anyone wish to discuss this, or have you any way of aiding the doctor from South Haven in his problem? That is what he is here for.

Dr. Hirschman: I would like to have Dr. Kiefer give us something on this.

Dr. Kiefer: I am afraid that I cannot help out the doctor. He asked a few questions in the first place about osteopaths and what they had a right to do.

In Michigan, as far as I know and can find out, they have no right to do that. They do it, but they have no right to practice obstetrics. That has been given as an opinion by the Attorney General.

Under a new law which went into effect about August 28, they have the right to give narcotic drugs. That has been settled. They have not the right to give other drugs as this gentleman said they had a right to give everything. That is as far as the law is concerned and as I understand it, but they do these things just the same.

It seems to me that the solution of that problem rests with the Hospital Board. I do not know who the Hospital Board are, but the Hospital Board will make a rule that no other but doctors of medicine can practice in that hospital and that will settle it. If they do not make such a ruling, then he is going to lose out. That is the way it looks to me.

The other scheme of getting the hospital on the accredited list and then saying that they cannot take them because of the lack of requirements amounts to the same thing. If the hospital will not make a rule excluding those men, I am afraid they cannot do anything else. That is the way it looks to me.

For instance, we have the large municipal hospital in the city. They have certain conditions there, but the governing board of that hospital is a board of governors that is made up of a few doctors of medicine and of laymen. There is then no chance of anyone but an M. D. getting in there. It does seem to me that it is up to the Hospital Board and if Penoyer thinks that the Hospital Board of which he is a member are in favor of letting the men in, I am afraid that he has lost his fight. If he can get them to vote against that, then he has won it.

Dr. Penoyer: All the points that are coming up have been fought through. The Hospital Board are taking their opinions from our city attorney in order to draft resolutions that will hold water. He says that we cannot exclude anybody as long as they are practicing with a license as issued by the state of Michigan. It is our information at this time, as received from the State Board of Registration of Osteopathy that they can practice obstetrics and surgery.

Dr. Kiefer: I would advise you, then, to get an opinion from the Attorney General. I think you will find that he will differ with the city attorney.

Dr. Penoyer: We tried to do that, but cannot get it.

Dr. Kiefer: I will get it for you.

Dr. Whittaker: I might offer a suggestion. Dr. Kelly of the State Board of Registration tells me that he had a conference with the Governor two weeks ago and he hopes and expects to get the cooperation of the Attorney General's office in the prosecution of people doing things they should not do. If he does get that cooperation and each District Attorney throughout the state, who is a Deputy At-

torney General, is on the lookout for people practicing the kind of medicine they should not, the procedure for the doctor would be to pick out a layman friend, pick out a specific case in which the man did a surgical operation which he was not entitled to do, have the man bring a complaint against the osteopath and then turn it over to the Attorney General and it will be prosecuted.

Dr. Garner: As I understand Dr. Kiefer, he remarked that osteopaths have no right to practice surgery or obstetrics. In Highland Park we have a hospital that is run by osteopaths. They do surgery and obstetrics. We also have some doctors in there. I think we can help a lot by cleaning up there. I think we ought to clean our own dooryard and then we can help this man and everybody else, too.

Speaker Pyle: Is there a further discussion?

Dr. Leslie T. Henderson (Wayne): Would it be policy to refer the doctor's complaint to the Legislative Committee who, in connection with the Council could work out some way to thresh out this, taking it up, if necessary, with the American Medical Association? That probably would bear some weight on that community.

I will make a motion to that effect.

The motion is: That the doctor's complaint be referred to the Legislative Committee in connection with the Council of the Michigan State Medical Society and if necessary they take it up with the American Medical Association and see if we cannot put weight on the local authorities in South Haven and make them take notice of what we have to say as a national body, have that coming from the State Society.

. . . The motion was variously seconded. . . .

Dr. Cassidy: I would like to know how much pressure you are going to put on a prosecuting attorney who goes out for election among his people? Where are you going to put your pressure? The trouble is that we always have the cart before the horse. Get your local Societies to wake up and see who the men are who are running for Prosecuting Attorney. If that fellow won't play with you, then it is up to you to play with somebody else. That is the fundamental thing of the whole proposition. (Applause).

In all of our state legislation we have been hitting at the wrong end of the wire.

The County Societies haven't done their duty. If we do not wake up pretty soon, it will be a repetition of what Dr. Penoyer has in his county. You can see that the practice of medicine has been dissipated there and we are fighting their medicine and not their practice most of the time. It is getting worse and worse and it will continue to get worse.

The minute that the Narcotic Division of the United States Government opened up morphine to the osteopath what did it mean? They recognized him as a practitioner of medicine. How are you going to get by with it? How are you going to force it if the United States Government recognizes him so that he can give medicine? How then are you going to say that he cannot? If he pays taxes to the municipal hospital then how are you going to keep him off the staff? He is an expert and has a right to the hospital just as much as you have.

The American College of Surgeons can standardize and give you a rule and regulation as to what you should do but they cannot say anything to him. They have no control over him. He is regulated by the osteopathic or chiropractic board. That is another situation that you have to contend with. That is the situation that is coming into every hamlet and it is also coming into the situation if you have municipal hospitals. You will not keep them out. They have made up their minds to get in and they will get in.

How? They will go down and have men go to Lansing. They will have them buy the Legislatures and they will get by. We sit down and wait until the last minute and then try to kill the thing at that time. That has been the whole trouble with the profession all the way through, we haven't acted at the source. We have tried to stem the current after it has gotten under way. The result is that it has swamped us. Unless we recognize the fact now we will go on being swamped. These fellows are coming year after year.

In the last Legislature they showed more hours of medical study than the regular profession could show. Did anybody come up and dispute that in the newspapers? Very few—I didn't see anything. They said they had something like 500 more hours of study than the regular profession did. Here we have been going before the Legislature and saying that these men have not had a sufficient medical education. Where is the nigger in the woodpile?

You cannot say we have more hours and then have them come up and place their hours before the various Legislative boards. You have to get something concrete and get it soon. It must start in the parent organization in the county. You cannot expect the secretary of the Michigan State Society to rush down and stop all the legislation in the period of a week or ten days of the time in which it is to be brought up. You have to start in the county society and see who the man is who is going to represent you in the state and find out what his attitude toward the medical profession is going to be. Do not wait until the senator gets there and try to find out then. Find out beforehand if he is antagonistic. Then you have things in your own hands. You come in contact with people and you can mold public opinion. But you cannot do it by rushing out at the last minute.

If this is taken into consideration the whole medical question can be controlled if the medical profession will only realize that they have a problem on their hands and that it is going to take a lot of work and money. We have to create a fund in order to fight these things. If the Legislature can be bought then when you are in Rome do as the Romans do.

Speaker Pyle: There is a motion before the House. Let us have the discussion on the motion that was made.

Dr. E. C. Baumgarten (Wayne): I wonder if in Dr. Henderson's motion we are getting right at the proper way to get at this thing? I think the thing is much more serious than we think. If this man in South Haven gets away with it it means a precedent will be set, and that is going to be reported by him to the Osteopathic Association and then the information is going to spread.

Is there any other body which functions in our state Society that could take this matter up? I think this is just as important as our legal defense if not more so. Here is a chance where we ought to be willing to spend a little money to help these fellows out there so that they can get rid of that man.

Secretary: I take it from the intent and purpose of the motion that this question of cult practice in community, municipal and other hospitals in the state was referred to the Legislative Committee carrying this instruction, that they not only enter into the consideration of the situation in South Haven but consider the

situation of the state as a whole and that that committee formulate a plan or a policy and collect certain data and evidence, or whatever opinions it requires, that will then be available not only to the men in South Haven but to every hospital community in the state. So in that way they may combat any wildfire spreading of such a movement. That, I take it, is the intent and purpose of the motion.

Dr. Baumgarten: That answers my question. If it implies that they are going to give the fellows some definite aid at the present time and not just a lot of data that the committees will have to report on next year. Can we help them out now, that is the point?

Dr. Henderson: I talked about the South Haven question but I meant the whole thing in general.

Speaker Pyle: State your motion again, doctor.

Dr. Henderson: I move that the doctor's problems and any other problems that have come up in the state of Michigan be referred to the Legislative Committee of the Michigan State Medical Society and the Council and they should take it up, in turn, with the American Medical Association so that it will become a national affair.

. . . The motion was variously seconded. . . .

Dr. Brook: As I understand it from one of the committee reports, the Committee on Miscellaneous Business, I believe the Legislative Commission report has been accepted and the committee has been discharged with the thanks of the House. With the consent of the maker of that motion I would like to make a substitute motion that the matter be referred to the Council and the State Commissioner of Health.

Dr. Henderson: I take it for granted that there will be another Legislative Committee, or Commission, to be appointed and they will take up this affair.

Speaker Pyle: Is there a standing committee?

Secretary: There is a standing committee provided by the by-laws, a Committee on Legislation and Public Policy. The Legislative Commission was only a temporary one.

Speaker Pyle: Is that all right, Dr. Brook?

Dr. Brook: Yes.

Speaker Pyle: Is there any discussion?

Dr. Biddle: Are you instructing the committee to report to the American Medical Association? If they think it wise to do so they will do so. It just refers it to that committee with power to act and act immediately.

Dr. Henderson: That is the purpose of the motion.

Dr. Biddle: They want immediate help. A month may be too late. I do not see any necessity of instructing that committee what to do, but just give them the power to do it.

Dr. Brook: That is the reason I mentioned the Council because they have more authority than the Legislative Committee would have.

Speaker Pyle: The Council is mentioned in the motion.

Dr. Manwaring (Flint): We have come through this. This man from South Haven isn't getting the help that he wants. We have a recent court decision covering all of these points. The control of a hospital in the state of Michigan rests absolutely with its board. The doctors, of course, and other people haven't anything to do with it. It has a board of control, the authority of which cannot be delegated to any other body. They determine who shall practice there. They have the right to set such standards as they see fit to insure that the patient shall receive the proper care.

The mere fact that a man pays taxes, is a physician, no matter what kind he is, does not entitle him to practice in any hospital. That doesn't give him any more privileges than if he didn't pay taxes at all. He cannot go down and run one of the city automobiles when he wants to and it does not entitle him to the use of the tools of the city and their facilities just because he pays taxes.

Furthermore, if he feels he has some grievance he cannot withhold his taxes. That is supposed to go to the support of the hospital. Those points have all been settled. In carrying out its policies the Hospital Board has the right to put such restrictions on there as it may see fit as long as they are not arbitrary. That is to say, it cannot through its own whim or any other insufficient reason select certain men who may practice in the hospital. Arbitrary is the word that the court hangs its decision on. You want to learn the definition of that because they are going to ask you. We had a mistake made in our trial because of that.

The court holds that men are entitled, if they are licensed, to practice in the hospital provided they meet the requirements of the board. The board has the right to place restrictions but they must meet the same standards. It doesn't make any difference whether they are osteopaths or other kinds of doctors.

This is an awfully easy thing to control if the Hospital Board will have a staff organization of some kind. They may have an advisory medical board and they may require the examination of these men. They may require that the men practicing in the hospital should pass certain qualifications.

We have a hospital of 320 beds. It is a city hospital. The osteopaths do not practice there. They desired to but they didn't get much encouragement. What kept them out was requiring all staff members having the qualifications laid down by the State Board of Registration. It isn't mentioned in that way at all. We take the requirements that they have and repeat them in our regulations, it is simply that he shall be a graduate of a medical school with a four-year course, and he shall have served one year as an accredited hospital interne and so on. There isn't an osteopath that can meet those requirements.

In order to let in the old doctors who didn't serve an interneship and didn't have the six-year course and so on they simply state as a part of that for the older physicians who were licensed prior to that time that they shall have had, at the time of their being licensed, the requirements laid down by the State Board of Registration in Medicine. That applies to all of them. That lets in any physician who has had the proper training in medicine and it bars all others and does it legally.

The problem at South Haven is to get the Board to do that. The legal points have been well covered. The Supreme Court of the state of Michigan has not covered all of these points but it has covered some of them. This judgment that we had given some time ago covers the different points that I have mentioned. I may have forgotten one or two.

What they need there is an organization, a Hospital Board that will adopt the standards that are laid down. These standards must be fair and must not be arbitrary. All must meet the same qualifications. Unfortunately for those who try to get in by short cuts they cannot meet the proper qualifications. That is the way

to bar them, and not because they are osteopaths, chiropractors or whatnot, but because they haven't the training.

Speaker Pyle: Let us stick to discussing the motion of the doctor: If—that is the question—this matter is to be referred to the Committee on Legislation and to the Council.

. . . The motion was carried. . . .

Speaker Pyle: Is there any other business that you wish to bring before the House?

Dr. Garner: In 1925 the State Legislature passed a bill giving the asylums of the state of Michigan the right to build and maintain open municipal hospitals. Three years ago the first unit was built in conjunction with the Northern Michigan Asylum at Traverse City. Following that, our State Board of Health recommended to different counties the employment of a full time health officer, secretary and nurse.

Some of the counties accepted it, others rejected it. A few points that I want to bring to you men is this, you have noticed through our papers that our county and state taxes are jumping rapidly. They have only started. If you stop to figure the enormous expense incurred by five or six large municipal hospitals under the management of the state that is only a drop in the bucket as compared with their maintenance. Also, figure in the extreme amount of money that is to be raised if both programs are finished, if all the counties in the state of Michigan accept a full time health officer, nurse and secretary together with the enormous expense for these hospitals, then what is going to become of the tax payer?

There are thousands and thousands of dollars in back taxes in various counties in the state of Michigan, and there are thousands of acres of land going back to the state every year. I have this one question to ask you men, if this program is completed what is the answer? What is the difference between a program of that kind and state controlled medicine?

It seems to me that it is a matter of vital importance because it is practically in its infancy. When the state makes a law it has control to enforce it. You have nothing to say about it and you haven't the power to control it. I would like to know just what the outcome of this thing is going to be when it is completed.

I want to move you that those counties that have not yet declared themselves be

notified not to do so and that this matter be placed in a competent committee to thoroughly investigate and that nothing further be done until the state Society has decided as to what the best thing to do shall be.

. . . The motion was variously seconded. . . .

Dr. Biddle: This is a serious matter and I would like to hear from the Health Officer as to what the status is.

Speaker Pyle: Dr. Kiefer, do you wish to discuss this?

Dr. Kiefer: Mr. Speaker: I do not care to discuss the first part, the introduction to Dr. Garner's remarks, but I will be glad to say something about the balance.

In the first place there was never a law allowing the establishment of those units until 1928. It was then that the first law was passed, providing the Board of Supervisors of the County cared to allow them and allow the appropriation. It is entirely within the hands of the appropriation body of the county whether any money should be allowed for that purpose or not.

There was no state allowance for this purpose until 1929, this year, when the Legislature allowed a sum of \$30,000, state aid, to be given counties that chose to establish such a unit, provided however that not more than \$3,000 be allowed to any one county.

The State Department of Health is very strongly in favor of the establishment of such County Health Units for the reason that it is the only method by which proper public health work can be done in this state. It cannot be done from one central office. It is impossible to do it that way. In the southern part of the state they are pretty well organized for County Health Units. They conduct their work more efficiently than any one central office could.

As far as the expense and the tax part of it is concerned, that is the thing that we had to face before the Legislature. The State Department of Health asked for an appropriation of \$60,000 for the purpose of giving state aid to the counties that chose to establish such County Health Units. It was cut down to \$30,000.

The argument was if you want \$60,000 now you will later want \$100,000 and the first thing you know you will want a million and that is a lot of money. My answer was that the money wasn't to be used

unless the willingness of the counties showed that they wanted this thing and unless it proved worthwhile.

We have not asked any supervisor or any counties to establish any County Health Units, nor have we laid the possible value of it before them without first going to the County Medical Society laying before them our plan and asking them to endorse it, or not endorse it as they saw fit. We have never asked for a County Health Unit from the supervisor unless we first had the endorsement of the doctors.

We have further found out, as nearly as possible, when we got ready to go before the supervisor, how much money was being expended for unorganized health work in that county. We found almost invariably that they spend from \$5,000 to \$6,000 for a nurse to run around wild and not be supervised on some health work.

Our minimum estimate for a County Health Unit is \$12,000. A county that is considering spending \$12,000 has been spending \$5,000 anyway. The state will furnish \$3,000, the Rockefeller Foundation will furnish \$2,500, so they are not going to spend any more money in the start of this thing than they did before they had it.

The principal advantage of a County Health Unit, if I may say so at this time, is its organization. We talk about health work that is to be done, health work that has been done, but you cannot do it unless it is properly organized and organized by an M. D. in charge of the work. That is the strongest thing in favor of it.

These doctors who take charge of the County Health Units are appointed by the Board of Supervisors. Never yet has one been appointed without our having been asked for a recommendation as to his qualifications. In each case we have been able to recommend a man who has had some training, through the Rockefeller Foundation, in county public health work.

We have a training school connected with our department in Lansing now and most of that is paid for by the Rockefeller Foundation. That is for men who want to take up this work.

We believe that a County Health Unit will do what it is my earnest wish can be done and will be done, it will turn the practice of medicine—and I am not talking about preventive medicine—over to the doctors. The County Health Unit will succeed in, I am sure, informing the public that what they want to do is to go to the

doctors to have their children and themselves examined and have everything done that has, up to this time, been done by the Department of Health and which shouldn't be done by them.

We advocate no clinical work by the County Health Units. We have said in the past, and I think it will bear repeating, that when clinics are given at this time in public health work they are done for demonstrative purposes. That should be just exactly what they are done for. As soon as it has been demonstrated and the people find it out and know what needs to be done they should go to the doctor and have him do it for them.

What we need from the doctors to make this a success is their co-operation. If they will just sit by and say that these fellows are going to take their business away from them they are not going to do any good and "it is going to cost us a lot of money by taxation" then it is going to fail. But, if they will take hold and do the work that these County Health Units will teach the people should be done then it will be a success.

The result will be a much larger and more satisfactory practice of medicine for everybody that is in the game than there is now. (Applause)

Dr. Baumgarten: I would like to ask Dr. Kiefer one question, if I may, and that is this: In what respect does the operation of the full time County Health Unit, as proposed in the state of Michigan, really differ from the operation of, for instance, the very much howled-down Shephard-Towner Bill of a year or two ago?

A great many of us are ignorant of this subject and I think we want the low-down on it. If it is a bad thing we do not want it; if it is a good thing we do. Everybody was opposed to the Shephard-Towner Bill and President Coolidge took care of the matter for us and did away with it. I would like to know what the difference in the principle of operation is in the two.

Dr. Kiefer: The Shephard-Towner Bill and the money it appropriated was appropriated for the purpose of reducing, as much as possible in the states which adopted it, the unusually large and unnecessarily large infant mortality by teaching the public how to take care of their children and by having clinics established which did that very work.

Demonstration of that has been had in Michigan. We are not going to continue that at all. We want the doctors to do

it. The demonstration showed the people that it must be done. It had the result of reducing the infant mortality.

The money under that bill was allowed for five years if the states would care to match it and take it up. Then it was allowed for a subsequent two years with a sort of gentleman's agreement that it would not be asked for again.

I want to say to the House of Delegates that the state of Michigan was not represented in this plea for further money for this purpose. We said it must be continued through the doctors. We were perfectly willing to keep on with the educational work through our Bureau which was established—and I am perfectly willing to tell you—with the help of the Shephard-Towner money. It is established that the state will keep on doing the work that needs to be done in the way of educating the public through our Bureau but turning the clinical work that comes from that education over to the doctors.

The difference between that Bill and the work of the State Board of Health or the Local Boards of Health, if they are established, is that under the Shephard-Towner Act the actual clinical work of trying to keep babies well and reduce the infant mortality, and everything that went toward that purpose, was done by the money provided by the Shephard-Towner Act.

It isn't going to be done that way here, but it is going to be done by the doctors if we can succeed in making these a success.

Dr. Connelly: May I ask Dr. Kiefer if Act 306 does not provide that the proposed County Health Unit is not allowed to make use of the facilities at hand under the control of the Board of Supervisors? In other words, that refers to hospitals or already established clinics. Doesn't the bill provide that they may make use of the equipment that is already established?

Dr. Kiefer: Without looking it up I would have to say, no. At least I do not remember that it does. I do remember the section in the law that the County Health Unit shall operate under the general supervision of the State Department of Health and as long as they will follow our policies they will follow the policies that I have outlined here. If they do not do that they will simply not be following our policies.

There are at present four County Health Units in the state and only one of them has kicked over the traces and does some

of the things that you men do not like and which I do not like. They keep promising to reform. They were established without a law before there was even a law in existence. They have a lot of money to spend and they will have to begin getting results. I am opposed to that. I do not see how any County Health Unit under the law—and they report to us every month what they are doing—could go far out of the way. I do not think the law allows it.

Dr. Insley: Section 6 of this Law or Act 306 not only provides for the supervision but for the control. I wonder if Dr. Kiefer remembers that section. It mentions that this board is given the power to control that.

Dr. Kiefer: The Board of Supervisors has the power to control, through the Board of Supervisors who give them the money and all that, in Section 6, the spread of communicable diseases.

Dr. Kiefer: I should hope they would have that right.

Dr. Insley: I would like to know if that is anything more than just simply demonstration?

Dr. Kiefer: You have to control contagious diseases.

Dr. Insley: That is a public health policy, but I am speaking of the Act alone which was brought up.

Dr. Kiefer: The Act is controlled by the State Department of Health.

Dr. Insley: I am speaking of Section 6 of this Act and of the power to supervise the activities in connection with the control of communicable diseases. It says there "control".

Dr. Henderson (Interrupting): I would like to ask Dr. Kiefer what constitutes a County Health Unit.

Dr. Kiefer: A minimum County Health Unit as we recommend it consists of a Health Officer, who must be a Doctor of Medicine, at least one and preferably two nurses and a clerk. If the thing is worthwhile and it works out well it is up to the County if they want to increase that number.

Dr. Henderson: You say three? All right, then the fourth one doesn't function. Is there any way that you can make the fourth one function?

Dr. Kiefer: I am doing my darndest to do that. I think so. I think there is some way of doing it.

Dr. Connelly: I would like to ask if

there isn't a possible danger in this establishment of the County Health Units. Suppose we should get a State Commissioner of Health in there who was a little more interested in self than in the medical profession, isn't it possible that this could be made a very good stepping stone for state medicine?

Dr. Kiefer: That is a big question.

Dr. Connelly, from my viewpoint of what public health is and what it should do I do not see how any man who is an efficient Health Commissioner could possibly conceive the idea that he should overthrow these principles of trying to get preventive medicine turned over to the doctors and try to do it himself. I cannot promise you that there won't be somebody who would do that. I think he would be wrong, however, and sentiment would be against him. The appropriation of the Legislature would go against him. I do not think he would get away with it.

I am trying to make a success of my job. The success of preventive medicine handled by a public official is to get the people educated that certain things can be done for their health first of all. Of course, a lot of that has been done but a great many things can be done to prevent diseases among them. When they get to that part the fellow who does that is their doctor.

I was talking to one doctor not long ago and he asked, "You want to prevent it among the school girls?"

I said, "Yes."

"The way to do it is to go into the schools."

That is what I call the old-fashioned health officer. That thing is going to be killed. There is one in the state whose appropriation has been taken away from him and he is all through.

The fellow who says the thing to do is to get the doctors to do this thing is the fellow whose ideas and policies is going to hold. That is what the people and you fellows want. That is the reason I do not think anything else is going to go through, not because the fellow doesn't want what you say but he won't be able to get away with it.

Dr. Connelly: That has been the big problem in the minds of the men reading and studying this proposition, whether a future Health Commissioner might not use that as a step for himself.

Dr. Kiefer: I do not think he could

get away with it. I do not say he wouldn't want to do it.

Dr. I. W. Greene (Shiawassee): It strikes me that this would be a very unwise thing to tie the matter up for another year as it would be if it was handed to a committee. It impresses me that this is a local matter and not something that the State Society should decide itself.

There are some counties where the local health unit would be a fine thing. If any of you men have had contact with some of the small town health officers and know them you know that they cannot function efficiently. Under those conditions the Health Unit is going to be a fine thing.

Different counties may see the situation differently. We talked today about reviving our country societies and making them more of an influence in medicine. Suppose we give them a little chance to settle this question, because it is a local matter.

I think we talk altogether too much about state medicine. If we would talk a little more about practicing good medicine we would be standing better with our communities. We go to our Legislature and they accuse us of being selfish. Maybe they are a little bit right about it. I have a hunch that these people who talk about state medicine look at it from a selfish standpoint.

We are appointing a committee to educate the laymen. I do not know any organization that will have a better influence in educating laymen to the usefulness of good medicine than an efficient Health Officer. I believe that the State Society, as a whole, would find it advisable not to tie themselves up with this question.

Speaker Pyle: Is there a further discussion?

Dr. Garner: I would move that this matter be placed in the hands of a competent committee to thoroughly investigate it, and that the counties be requested not to take further action until the State Society has decided the matter. That is my motion.

Speaker Pyle: You have heard the motion.

Dr. Connelly: I second the motion.

. . . The motion was put to a vote. There was a doubt as to the result. . . .

A rising vote was taken with the result:

For	12
Opposed	23

Speaker Pyle: The motion is lost.

Dr. J. R. Rupp (Wayne): I am sure

the House of Delegates is interested in the welfare of the profession in Michigan. That is reflected in how our young physicians are getting started. The needs of a physician starting in a big city are great and there are inroads on his practice. Sometimes I think we ought to take down all the Safety First signs so that they will have a little business.

We are going in for the practice of preventive medicine if the County Health Units are going to function, and under the wonderful guidance of Dr. Kiefer they will. I only think they might take over the practice of medicine as well. I do not believe that will necessarily occur.

If we could have the advance agents and the visiting nurses talking for the offices of the physicians and once a year dropping in with a poor charity case which he would be glad to treat, nine out of ten of the charity cases would be taken care of by the physicians themselves and they would be tickled to death to do their own charity work. They would be glad to do some of those cases and have them serve as advertising to their own offices. I think we should get that over so that the offices of the physicians may be built up and may become the health centers they should be. We have thousands of them all over the state. Let us put forth the effort to have the business go to them.

I think if the Rockefeller Foundation is interested in helping the families, I would like to say that some of the families of the physicians are at the point where they haven't much to eat.

I would make this motion, in order to get this matter before us in a way that we can better grasp it—and if we are going to practice medicine let us have a uniform price for it. The Scotchmen and others so inclined can get their services a little cheaper in some groups or in the free clinics if they go with the right sort of story. I think if they are making \$10,000 a year or so they should be compelled to pay for the care. If the investigation is done by the doctor himself then it is entirely different. Of course, if those people come with the right sort of a story they can get free medical service.

Of course, if they get caught in the story they cannot get the free service until they have tried to get it from the physician and he gives them a letter saying they are entitled to the free service.

I would like to make this motion: Resolved, that it is the recommendation of the State Society that no physician should

give services to any patient in a free clinic unless same patient has been referred there by the written order of some other physician. This shall not exclude any temporary first aid treatment.

I think our public hospitals—if I might speak another word on this—should be entitled to just the same ethical advertising that a private hospital has a right to have. I think that is a wonderful hospital that was started in Detroit in the northwest section where there are a group of private physicians. I am not in with them, although I admire their bravery. I didn't hear much about that, but when the Receiving Hospital Unit was started there were big headlines in the paper on that. There was something like \$117,000 spent for a 25-bed unit. I think there should be the same standard for the public institution that we have for the private unit. I think the private institute is entitled to as much advertising as the free clinics and the receiving hospitals.

There was an incident where a man crushed his finger working on a job and he was the first patient there. There were some 100 doctors in that same community. One of the young physicians said he had waited on that same corner for three months without a call. Any one of the physicians in that community would have given the same service at the expense of that particular insurance company that was responsible for that accident. Instead of that the welfare workers of the city of Detroit think it has been a wonderful investment to put \$117,000 into a 20-bed hospital. Where are we coming off?

... The motion was variously seconded among the Wayne County delegation. ...

Speaker Pyle: The motion, in full, then is:

"Resolved, That it is the recommendation of the State Society that no physician should give service to any ambulatory patient in any free clinic unless such patient has been referred there by the written order of some physician. Dismissal from his local society should be the penalty for such violation. This shall not exclude any temporary emergency for first aid treatment."

You have heard that motion, is there a discussion?

Dr. McClintic: I think that some of these resolutions are rather hastily drawn up. The objection that I had to Dr. Garner's former motion was the fact that he

said no county and I took it to mean the Board of Supervisors. He said the Society should go on record, and the County Medical Society be asked not to establish a clinic or a Public Health Unit until after the investigation had been made. In that case I think it might be proper.

I think there are men here who can subscribe to the principle of the motion just made. I can see that something may arise where that would work a hardship on some individual who might be in a position where he needed treatment and it might not be emergency treatment.

I can conceive of individuals in a large city like Detroit needing free clinical service. They may be in dire need of the attention of a physician. Their condition may not be chronic and it may not be an emergency and it may not be an acute case. However, I see no reason why that patient should be turned away from the clinic and sent off to a doctor who will eventually send him back to the clinic. He may go to a doctor who really doesn't want to see him. We have some patients we would rather not see coming to us; we would prefer to see them go to the clinics.

On the other hand, the penalty attached there, it seems to me, would require a change in our by-laws or in some of our ethics. For that reason I think it raises quite a serious problem. It seems to me that it should be referred to a committee and permitted to lay over and be taken up at the next meeting of the House of Delegates.

I move that that be referred——

Speaker Pyle (Interrupting): There is a motion before the house. However, I think a motion to refer to a committee is in order.

Dr. A. J. Himmelhoch (Wayne): I would like to say a few words about the motives behind the resolution that has been offered. This may not apply so strikingly in other counties, but Wayne would like to have the support of the Society in a measure which they hope will put an end to a situation which is at present almost intolerable and which seems to be getting worse.

Those who practice in the larger cities know that the younger men all want to be on the staffs of the good hospitals in the city. In order to be on the staffs of the good hospitals they have to work in the clinics. No doctor, young or old, objects to seeing any patient who needs medical services.

On the other hand, the classification of patients into indigent groups and those who can afford to pay is at present carried on by social workers who are very well paid and whose classification of a needy patient would not agree with that of most doctors who are practicing.

Dr. Baumgarten will perhaps follow with a little discussion as to an article which appeared in a recent issue of the American Journal of Surgery in which one of our Detroit social workers, Miss Kaiser at the Harper Hospital, spoke on the need of clinics to take care of patients who are quite indigent. Here I wish to say that her definition of an indigent patient included those who were in many instances in a better position than the average doctor.

If the individual doctor in a dispensary were to object to seeing the patient he would be given the alternative of seeing the patient or leaving the hospital. Neither of those alternatives would be desirable.

On the other hand, if the situation were put to the hospital that no doctor could belong to the local medical society and see patients in the hospital if they were not approved by the physicians themselves it would make it much easier for the men on the hospital staffs.

I can speak for a number of men who are at present seeing patients in dispensaries and who are constantly complaining of the attitude of social workers in regard to who should and who should not be seen.

The doctors do not see where a hardship would be worked on either the patient or the physician if they required every patient who came to a free clinic to have a slip from a physician saying he had taken care of the patient, or he had seen the patient, knows the circumstances and feels the patient is entitled to the care of the clinic. The doctors would then be willing to see the patient. They would then not have to depend on an elaborate social service scheme which is exceedingly expensive and in which every unit is paid except the doctor and which is constantly taking away cases from the practitioners which really should form the bulk of his practice.

Speaker Pyle: Dr. McClintic made a motion to refer this matter to a committee.

Dr. McClintic: To the Public Relations or Ethics Committee.

Or, I might suggest the Committee on Miscellaneous Business.

... The motion was variously seconded. ...

Speaker Pyle: The chair would like to ask for information from some parliamentarian as to whether a motion to refer to a committee is now in order.

Secretary: A motion to commit is always in order and is non-debatable.

Speaker Pyle: The chair will ask for a vote on this, whether it is the sense that a motion to refer is in order in spite of the discussion.

Dr. McClintic: I understand that a motion to commit a resolution of that sort is always in order and is non-debatable.

Speaker Pyle: The chair will rule in that fashion. The question is to refer this motion by Dr. Rupp, regarding these clinics, to the Committee on Miscellaneous Business.

... The motion was put to a vote. The result was in doubt. ...

... The motion was put to a rising vote with the following result:

Favoring	16
Opposed	17

Speaker Pyle: The motion is lost.

... The vote on the original motion was called for. ...

Dr. R. H. Denham (Kent): I think we all realize that there is a possibility of some patient being bled and being put off by some unscrupulous man to whom he may have gone, even though that patient should have charitable services. They may not get a reference card until they are bled so far that they suffer. I think we should consider very carefully before we adopt this resolution.

Dr. Himmelhoch: That question was thoroughly discussed when the motion was being considered. Any patient has a right to go to another physician if he, or she, wishes. If he goes to a physician and that physician refuses to send him to a clinic he can go to another physician and submit the case to that physician. It is not likely that he will fail to find any physician who will see no justice in the case.

Again, it has been suggested that every local society will surely form a committee to take up the case of those physicians who are negligent in either direction, that if it can be shown to the committee that a doctor is bleeding the patient and is not conducting himself—well, I do not think any doctor would want to be put into that class. I do not think any injustice will

go unnoticed. There will probably be abuses in the other direction too.

If clinics can show that doctors are sending them cases for X-ray or for laboratory work which ought to be paid for then that too can be corrected. There is no reason to believe that any indigent patient will suffer. It will tend to eliminate a tremendous expense in the running of hospitals.

The social service investigation which at present is so expensive is getting more expensive, involving more and more workers and larger and larger salaries, a large part of that will be taken over by the physicians themselves. That type of worker can be put on work which is more helpful to the patient himself.

Dr. Rupp: I wish to answer what Dr. McClintic said. This is not a hastily drawn up matter. This has been boiling in me for some time. I have discussed it with numerous physicians, some of them in Toledo and other places. I have been told that the Toledo Medical Society, which is one of the liveliest organizations in the country, has had such a system in force for a number of years.

There the Visiting Nurses' Association was running a bill of some \$15,000 a year for nurses' calls to homes. They were drumming up business for the Receiving Hospital and the free clinic. The Medical Society says that no nurse shall visit a patient's home unless she is so requested. That cut down the expense from \$15,000 to \$1,500 and saved the tax payers some money. It is up to us to get some lay organizations to see that we are fighting their problems and let them take it up too.

There is the other question that this might be a hardship for some. This will not be. It has been provided for that temporary emergencies can be taken care of. However, let that be temporary and not a continuation. Bleeding fingers need not be amputated. You can send the man to the private physician who will amputate if need be and he can also do anything else that needs be done.

Dr. A. D. Allen (Bay-Arenac-Iosco): I move we adjourn.

Speaker Pyle: A motion to adjourn is always in order.

... The motion was seconded variously. The result of the vote was in doubt. ...

... Tre rising vote was taken with the following result:

Favorable	16
Opposed	22

Speaker Pyle: We are still in session.

... The question was called for. ...

Dr. Biddle: I would like to ask a question. I am perfectly in favor of what they say about a clinic. I think, however, that the penalty attached is entirely too severe. The question of penalty rests with each Society. I think if the doctor will withdraw the penalty I can vote for it, but with the penalty attached I cannot. He has no right, and we have no right, to set the penalty. That is an individual question to decide. I would like to ask the doctor if he would be willing to withdraw that penalty.

Dr. Rupp: I am willing to change it. I had in mind a case where a young physician was arguing with the social worker about the treatment of a certain case. He probably couldn't get enough force there to back him up and to convince the social worker that that was a case for the doctor. He might, if this were in effect, say, "My County Society will not stand for my taking care of the patient on that basis." He would have a weapon there.

You might say that he would lay himself open to disciplinary action by his local Society.

Speaker Pyle: You have heard the question and the modification. Will you state it, Dr. Warnshuis?

Secretary: The resolution was:

"It is the recommendation of the State Society that no physician should give service to any ambulatory patient in any free clinic unless such patient has been referred there by the written order of some physician.

"Members violating the provisions of this motion are to be referred for disciplinary action to their County Society. This shall not exclude any temporary emergency or first aid treatment."

... The motion as stated by Secretary Warnshuis was carried. ...

Dr. Baumgarten: Our President, in his address this morning, stated some hard work is being done by various members of the State Society, with particular reference to the Secretary. He also stated that some provision ought to be made whereby a secretary be a full-time man or else be compensated in such a manner that it will pay him to take up his time.

To bring this before the House of Delegates, I would move you, Mr. Speaker, that it is the consensus of the House of Delegates that the present Secretary be retained at a salary of \$1 per year and that

a full-time Executive Secretary be hired, the salary and responsibilities of such a secretary to be fixed by the Council.

... The motion was seconded. ...

Dr. H. E. Perry (Luce): We voted awhile ago to appoint a committee to revise the by-laws of this Society. I think this motion should be referred to that committee, the Committee on the Revision of the By-Laws of the Society.

I would offer that as an amendment to the motion.

Dr. Allen: I support that.

Dr. Baumgarten: It is my belief that this committee to revise the Constitution and By-Laws is appointed at this session and that it is to report a year from now. Conditions are such, as I understand them, that we cannot wait a year for action with regard to the secretaryship. I think it would be better to take this matter up at this time rather than refer it.

The President, in his address, stated that the Council should appoint a Secretary and that the Council should act in accordance with the way the House of Delegates acted.

Dr. W. C. Ellet (Berrien): Does that mean a lay secretary?

Speaker Pyle: Then you do not accept the doctor's amendment?

Dr. Perry: My amendment is that this motion be referred to the Committee on the Revision of the By-Laws for consideration.

Dr. A. A. McKay (Manistee): I would like to second that.

... The amendment was put to a vote. There was a doubt as to the outcome. ...

... The result of a rising vote was:

Favorable	17
Opposed	13

Speaker Pyle: Now we will vote on the motion as a whole.

Secretary Warnshuis: You have moved to commit it and that is where it is now.

Dr. Baumgarten: It seems to me that the amendment was negative to my motion. It has nothing to do with the motion at all. I believe that defeats the motion. I would rather see the motion defeated than have it go through in that way. The matter was brought up to take care of this year and isn't contrary to the constitution in any way.

Speaker Pyle: A motion to refer the matter to a committee is in order and it has been carried. The chair must rule that way.

Dr. Ellet: I move we adjourn.

... The motion was variously seconded and carried. ...

... The meeting adjourned at five-fifteen o'clock. ...

TUESDAY EVENING SESSION

SEPTEMBER 17, 1929

The third session of the House of Delegates convened at seven forty-five o'clock, Speaker Pyle presiding.

Secretary: I hold in my hand the signed roll call of more than a quorum of the House. I move that this roll call constitute the official roll call of the House for this last session.

... The motion was seconded and carried. ...

Speaker Pyle: Has the Reference Committee anything else to report supplementing the afternoon report?

Dr. Shaw: We have nothing to report.

Dr. McClintic: We have nothing further to report.

Dr. Andrews: We have nothing further to report except that this request was handed to me: Would the committee be willing to thank the contributors to the Medical History, as well as the committee themselves?

Speaker Pyle: That can be incorporated in your motion.

We will now listen to the report of the Nominating Committee.

Dr. J. J. O'Meara (Jackson): Dr. Cassidy was kind enough to appoint me to read this report. Your Committee reports:

ELECTIONS

For First Vice President, George F. Inch.

Second Vice President, Claude R. Keyport.

Third Vice President, E. H. Webster.

Fourth Vice President, W. C. McCutcheon.

The Delegate to the A. M. A. was by a majority vote for Dr. Moll. He was nominated for that position. The alternate for the position was Dr. Cassidy.

The place for the next annual meeting was decided to be offered to you as St. Joseph and Benton Harbor.

Speaker Pyle: The next order of business is the election of these several nominees. First there are the four Vice Presidents of the Society.

Dr. McClintic: I move that the Secre-

tary be instructed to cast a ballot for the four nominees.

Dr. A. V. Wenger (Kent): I second the motion.

... The motion was carried. ...

Secretary: In compliance with the instructions of the House of Delegates your Secretary does cast the ballot of the House for Dr. George F. Inch, of Traverse City, Dr. Claude R. Keyport of Grayling as Second Vice President, Dr. E. H. Webster of Saulte Ste. Marie as Third Vice President, and Dr. W. C. McCutcheon of Cassopolis as Fourth Vice President.

Speaker Pyle: I declare these gentlemen elected.

Now we have the question of the Delegate to the A. M. A. Dr. Moll has been nominated.

Dr. A. S. Brunk (Wayne): There is a man who has given a great deal of time to the Society's affairs this last year and he has made a brilliant success. I believe this organization could not do anything other than elect him as our National Delegate this year.

I nominate Dr. Louis Hirschman, our retiring President, for Delegate to the A. M. A.

Speaker Pyle: Are there any further nominations?

Dr. Baumgarten: I move the nominations be closed.

... The motion was variously seconded. ...

... The motion was carried. ...

Speaker Pyle: We will now proceed to ballot for the two candidates. We will appoint five tellers. They are to be composed of the three gentlemen sitting on the left here and the first two on that side.

... Balloting proceeded. ...

Speaker Pyle: Has everybody voted who wishes to vote? If so, I declare the ballot closed.

We will now listen to the report of the tellers.

Secretary: There were 50 votes cast. Dr. Moll receives 27 and Dr. Hirschman 23.

Speaker Pyle: That declares Dr. Moll as Delegate to the A. M. A.

Now we come to the election of the Alternate. The nominee is Dr. Cassidy.

Dr. Wenger: I move the rules be suspended and Dr. Cassidy be elected by acclamation.

Dr. G. H. Southwick (Kent): I second that motion.

Dr. Dibble: I wish to nominate Dr. Hirschman as Alternate.

Speaker Pyle: We have had a motion, gentlemen.

Dr. Carstens: Time must be given for nominations to be made from the floor.

Speaker Pyle: I yielded the floor to Dr. Wenger and he has made a motion which has been seconded. That motion is before the house.

Dr. Wenger: I will yield the floor.

Dr. McClintic: I am under the impression that you cannot deprive him the privilege of the floor if he objects before the motion is put.

Speaker Pyle: Dr. Dibble, you have the floor.

Dr. Dibble: I nominate Dr. Hirschman.

Dr. McClintic: I second that nomination.

Speaker Pyle: Are there any other nominations? If there are no other nominations we will proceed to ballot. The same gentlemen will act as tellers.

... Balloting proceeded. ...

Speaker Pyle: Gentlemen, have you all voted? I declare the ballot closed.

We will now listen to the report of the tellers.

Secretary: There were 52 votes cast, of which Dr. Cassidy received 26 and Dr. Hirschman received 26.

Dr. Hirschman: I wish to withdraw my name.

Speaker Pyle: According to the constitution the Speaker has no right to decide a question of this kind. What are your wishes, gentlemen?

Dr. Wenger: I move we proceed to another ballot.

Dr. Brook: I second the motion.

... The motion was carried. ...

Dr. McClintic: I rise to a point of order: Our by-laws provide that in case of a tie vote the Speaker shall cast a vote to declare which shall be elected.

Secretary: Mr. Speaker and Gentlemen of the House, with your indulgence I will see what Robert's Rules say. In the A. M. A. the provision in the by-laws is that in case of a tie vote the Speaker casts the deciding vote. However, in our Constitution and By-Laws there is no such provision. Our Constitution and By-Laws do provide that Robert's Rules of Order shall govern the parliamentary procedure of the House. I will look up what it says on a tie vote.

Mr. Speaker and Members of the House, this is Robert's Rules: "On a tie vote the motion is lost, and the chair, if a member of the assembly, may vote to make it a tie

unless the vote is by ballot. The chair cannot, however, vote twice, first to make a tie and then give the casting vote. In case of an appeal, though the question is, 'Shall the decision of the chair stand as the judgment of the assembly?' a tie vote, even though his vote made it a tie, sustains the chair. ..."

According to Robert's Rules your Speaker cannot decide and hasn't the power to cast the deciding vote.

... Balloting proceeded. ...

Speaker Pyle: If everyone has voted I declare the ballot closed.

We will hear the report of the tellers.

Secretary Warnshuis: There were 53 ballots cast, of which Dr. Cassidy received 29 and Dr. Hirschman 24.

Speaker Pyle: I declare Dr. Cassidy elected alternate.

The next question is the place of the annual meeting. The Nominating Committee have designated St. Joseph and Benton Harbor.

Dr. McClintic: I move that we decide to go to St. Joseph and Benton Harbor.

Dr. Wessinger: I second the motion.

Dr. Corbus: The Council is somewhat concerned as to the meeting place. I do not want to take a position against Benton Harbor or St. Joseph, but the Council would like to have a certain amount of latitude in the placing of this meeting for matters of economy if for nothing else.

There isn't time for the House of Delegates or the committee, in the brief time that they have, to thoroughly look into the matter of accommodations. The Council would wish that they be given some latitude. Understand, this isn't because we are not in favor of Benton Harbor or St. Joseph, but we feel the interest of the Society would be best served if we had the opportunity of having a certain amount of leeway.

Speaker Pyle: Is there any other discussion?

Dr. Himmelhoch: Is it the wish of the Council to have more latitude than that which is contained in the motion?

Dr. Corbus: The Council would wish you to give them a certain amount of latitude so that if we found conditions such that it might not be the best for the Society we might go to some other place.

Dr. Walter J. Wilson (Wayne): I make an amendment that "in the discretion of the Council" be added to this motion.

Dr. Himmelhoch: I second that.

Dr. Ellet: Isn't that a rather ambigu-

ous statement, to give the Council latitude? Have they named any other place?

Speaker Pyle: No other place has been named so far.

Dr. Ellet: It would give the Council the latitude to set the place of the meeting any place they wanted.

Speaker Pyle: We direct the Council and we let them go according to their own discretion. They could name any meeting place they wished.

Dr. Ellet: The House of Delegates would have no say as to where the meeting would be.

Speaker Pyle: Not if we delegated that power to the Council.

Dr. Hornbogen: It has been customary, in the American Medical Association, to designate the place, but the Board of Trustees very carefully investigate whether any town we designate is a suitable one for holding the meeting.

I think that is a very wise provision. We do not want to be gypped and we do not want to go to a place that hasn't the conveniences and the places to hold a proper meeting of the State Society.

I think we should follow the lead of the parent organization, the American Medical Association, and give our Council that much leeway. If we should go to some town where they cannot have a decent meeting, then we are all disgruntled and whose fault is it? Then it is the fault of the House of Delegates. I would like to pass the buck to the Council.

Speaker Pyle: Is there any other discussion on the amendment? The words "in the discretion of the Council" were offered as an amendment.

Dr. McClintic: Why can't that be worded more definitely? That is another one of those ambiguous phrases. Why not word it in such a way that unless an emergency arises, which in the judgment of the Council would deem it advisable to hold the meeting somewhere else, it will be held in Benton Harbor and St. Joseph?

The Council in that instance would have to show that there was an emergency existing. They would have to investigate that Benton Harbor could not accommodate the Society. There might not be hotel accommodations in Benton Harbor and St. Joseph and they could then move the meeting, but they would have to show that those facts exist before they could take the meeting away from there. That would put the burden of proof on the Council and would not leave the matter up to them merely.

... The amendment was voted on. The vote was in doubt. ...

... The result of the rising vote was:

Favorable	41
Opposed	7

Speaker Pyle: The amendment is carried. The question now is on the original motion as amended, that we designate Benton Harbor-St. Joseph as our next meeting place, but that it be left to the discretion of the Council.

Is there any discussion on that motion?

... The motion was put to a vote and carried. ...

Speaker Pyle: Now we are open for nominations for Councillor from the Thirteenth District.

Secretary: The Thirteenth District is the one where Dr. Van Leuven of Petoskey now is. It comprises the following: Alpena (including Alcona), Antrim, Charlevoix, Cheboygan, Emmet, Presque Isle. The delegates from that section are supposed to nominate their Councillor. I have had no nominations.

Speaker Pyle: Are there any nominations for Councillor from the Thirteenth District?

Delegate: The delegates from that District have caucussed and they have unanimously agreed to nominate the present Councillor, Dr. Van Leuven for another term of office.

Speaker Pyle: Are there any other nominations?

Dr. Wilson: I move that the Secretary cast a ballot for Dr. Van Leuven for Councillor from the Thirteenth District.

Dr. Mac Kenzie: I second the motion.

... The motion was carried. ...

Secretary: Mr. Speaker, your Secretary does so cast the vote.

Speaker Pyle: Next is the Councillor for the Fourteenth District. But, first of all, I declare Dr. Van Leuven elected.

Secretary: Dr. Bruce of Ann Arbor is Councillor from the Fourteenth District which is comprised of: Lenawee, Monroe, Washtenaw.

Dr. Wessinger: I rise to nominate Dr. James Bruce to succeed himself. That is the unanimous verdict of the delegates of the three counties included in that District. Dr. Bruce has eminently filled this position in times gone by and he is only about half through with the work that he has outlined. We feel he is not only eminently fitted, but in justice to him we should reelect him.

Dr. R. G. B. Marsh (Lenawee): I second the motion.

Speaker Pyle: Are there any other nominations?

... The motion was carried. ...

Speaker Pyle: I declare Dr. Bruce elected as Councillor for the Fourteenth District.

We are now at the point where we will take nominations for the Speaker.

Dr. Himmelhoch: I wish to put in nomination for Speaker Dr. Charles E. Dutchess of Wayne.

... The motion was seconded variously. ...

Speaker Pyle: Are there any further nominations?

Dr. Moll: I wish to place in nomination Dr. Pyle to succeed himself.

... The nomination was variously seconded. ...

Speaker Pyle: Are there any further nominations? If not, we will proceed to ballot. The tellers will come up.

... Balloting proceeded. ...

Speaker Pyle: Gentlemen, have you all voted? If so, I declare the ballot closed.

We will now have the report of the tellers.

Secretary: There were 51 votes cast. Dr. Dutchess received 20 and Dr. Pyle 31. (Applause).

Speaker Pyle: Gentlemen, I have been visibly embarrassed today by my lack of knowledge of parliamentary law. The only reason that I didn't withdraw my name was because I thought if I were elected it would give me a chance to do the things right next year. I thank you! (Applause).

Nominations for Vice Speaker are now in order.

Dr. Himmelhoch: I nominate Dr. Dutchess as Vice Speaker.

Dr. Southwick: I second the nomination and move the nominations be closed.

... The motion was seconded and carried. ...

Dr. Wilson: I move the Secretary cast a ballot for Dr. Dutchess for Vice Speaker.

Dr. Wessinger: I second the motion.

... The motion was carried. ...

Speaker Pyle: I declare Dr. Dutchess elected.

Secretary: Mr. Speaker, your Secretary so casts the vote.

Speaker Pyle: Is there any unfinished business?

Is there any new business?

Dr. Biddle: There are so many things

of importance that were brought before the House of Delegates to decide in this one day and they have such a far reaching effect not only within ourselves but as regards the layman, that I was wondering if it wouldn't be wise for you to appoint your committees long before this meeting and submit the different reports to them for consideration so that instead of having two or three hours for consideration of very important matters we may have at least one or two months.

I was wondering if it would be practical to have those committee reports submitted to them and any other resolutions that may be offered. If it is not practical I withdraw my suggestion.

Secretary: Dr. Biddle and Members of the House: The suggestion of Dr. Biddle is entirely in order. Before an annual meeting we attempt to secure the reports of our standing committees and special committees that are functioning through the year. We publish them in the Journal a month preceding the annual meeting.

It is true, as Dr. Biddle says, that in the short period the House has for consideration of some of these important reports, like that of the Industrial Committee which was submitted today, it is almost a necessity that in order that the members understand this report some kind of an intelligent abstract must be presented to the House.

The policy in the American Medical Association is—by precedent and not by constitution and by-laws—that the Speaker appoints his reference committees one month preceding the annual meeting of the American Medical Association and all committee reports are referred to the special reference committees, appointed by the Speaker, and all resolutions as far as possible are sent to the Secretary of the American Medical Association a month before the annual meeting, and they are published either in the Bulletin or the Handbook of the American Medical Association in order that the delegates may have the opportunity of going over these reports and thus be in better position to vote intelligently on the action of the Society.

The suggestion of Dr. Biddle is a timely one. It might well be handled by the House, that a resolution be introduced at this time that it be established as a precedent of the House that all committees be appointed one month previous to the time of the annual session, by the Speaker, and all reports be referred to the reference

committees, appointed by the Speaker at that time, and that all resolutions of members, having this in mind, be referred to these same committees, or to the Secretary to be referred to these same committees, and be published in the Journal as well as in your Handbook so that the delegates may be able to digest them and be more intelligently informed when they make their vote.

Dr. Biddle: I make such a resolution that you so instruct them.

Dr. Mac Kenzie: I second the motion.

Speaker Pyle: Is there a discussion? . . . The motion was carried. . . .

Speaker Pyle: Is there any other business?

Dr. Carstens: This afternoon the House discharged a committee that has done by far the largest amount of work that any of our committees have recently done, the Legislative Commission.

I wonder if we have been properly appreciative of the tremendous amount of work done by our Legislative Commission, by the officers of our State Society, and by certain Legislative Committeemen from some of the County Societies? Some were active and some were not. Most of us had reports from time to time. We are all interested in how they are going along. We know they have troubles and that this work takes a tremendous amount of their time. Almost every officer and every member of the Legislative Commission was on the job constantly.

I move the House express, to the members of the Legislative Commission, the general officers of the Society and those members of the County Societies who were active in the legislative work, our thanks and appreciation for the work which they have done in the last year.

Dr. Biddle: I second the motion.

. . . There were several other seconds as well. . . .

Speaker Pyle: Is there any discussion? . . . The motion was carried. . . .

Speaker Pyle: Is there any further business?

Dr. Denham: This afternoon when there was less than a full session here, a measure was passed in this assembly which, it seems to me, is of considerable importance and is one that deserves to be considered by the whole assembly. That was the question of the treatment of charity patients, or patients, whether charity or not, in free clinics.

If you will, I would like to have you read that motion as it was passed.

Dr. Baumgarten: We are now under the title of New Business in the order of business. This matter that is being brought up now has been passed upon and doesn't have to be reconsidered. If some of the delegates left prematurely it is their own fault.

Speaker Pyle: A motion to reconsider, doctor, is always in order.

Dr. Baumgarten: There is this point, that in the last session of the House of Delegates there was the order that in order to bring up business of this nature we have to have the unanimous consent of the delegates seated.

Speaker Pyle: This is the reconsideration of a motion, doctor, and the chair feels that it is in order.

Secretary: The motion was:

"It is the recommendation of the State Society that no physician should give service to any ambulatory patient in any free clinic unless such patient has been referred there by the written order of some physician.

"Members violating the provisions of this motion are to be referred for disciplinary action to their county Society. This shall not exclude any temporary emergency or first aid treatment."

. . . There were several seconds to Dr. Denham's motion to reconsider. . . .

Speaker Pyle: It is moved and seconded that this resolution be reconsidered.

. . . The motion was carried. . . .

Speaker Pyle: The resolution is now before the House.

Dr. Denham: Mr. Chairman, there is no question but that those men living in Detroit have a just grievance. Such is not the case in the smaller towns, or cities. One can readily see where it would not always be well that a patient be referred by an attending physician.

Personally, I do quite a little clinic work. I know that the clinics are abused, but we cannot get around all of the abuse. We can get around some of it. I see charity patients in my office who have been severely abused and who have been bled by attending physicians who have taken their last dollar and have taken more than they could afford to spend before they would turn them loose for charity clinics.

Very often, I am afraid, these patients are not going to receive the proper treatment. It strikes me that this matter could be dealt with in the local Society. It is

a local problem, more or less. It isn't a problem that confronts all of the Medical Societies of the state.

It is for that reason that I suggested this be reconsidered. The penalty as read there is less severe than the one first offered. The penalty could be very severe. It seems to me that it might be more severe than the punishment of crime. For that reason I would like the whole House of Delegates to consider this matter.

Dr. Himmelhoch: Having spoken in favor of this motion this morning I am taking the liberty of speaking to it this evening.

Like Dr. Denham I spend every morning of the week in the free clinics. I do not speak as one on the outside looking in. In a similar way Dr. Whittaker and several of the others, in favor of the motion, also devote at least half their professional time to the free clinics.

There is no question that in the smaller communities the problem which presents itself in a city like Detroit is not present.

In the first place I might answer Dr. Denham's reflection on the members of the profession—if we are prepared to say that we include among our numbers people who are willing to believe the patient should be abused and who treat him in a way which reflects discredit on our organization—that if we recognize them as our honored members in the profession then we are in a weak position.

We should start with the assumption that all of our members are honest and none of us wants to bleed the patient. We all want to give the patient the best kind of medical attention and yet not give away services which are worth adequate remuneration to people who are able to pay for the services.

Nobody in the Wayne County group is at all prepared to demand fees from indigent patients. Doctors have always been and all medical men—and we are talking about the kind of medical men we hope we are—are only too glad to give the indigent patient the best that is in us. We see them in dispensaries and we give them more time and more conscientious attention than we do to the patients in our office sometimes.

When we are confronted by the patient who comes there in an automobile wearing a fur coat, and who is buying a radio, in many cases in a stronger financial position than is the physician himself, one who has nevertheless been admitted to the

clinic on the basis of a social worker's decision as to his or her ability to pay, then I think it is time for us either to admit that we are not prepared to judge a patient's ability in any direction to pay and leave it entirely up to social workers.

We have good hospital workers and conscientious social workers in every hospital in Detroit, and we have an elaborate social service apparatus which is expensive, just as expensive as any medical apparatus in the state. The cost for social service in a hospital is tremendous. The cost for medical service in the hospital is nil.

Social workers see patients at the desk. Those patients can come with any story they like. They lie in many instances. In many instances they tell the truth and yet the social worker decides that the patient is able to pay, and we as physicians would be willing to admit that patient because he is unable to pay.

The social worker will tell you that the patient is so tied up with debts on radios and automobiles and jewelry that he is in no position to pay the doctor. We ask only the same consideration for the doctor in the clinic that the grocery man, the radio dealer and the automobile dealer get. There is no reason for us to be treated as good things by social service workers and organizations, professional charity dispensers who are themselves very well paid.

If an individual physician were to go to the hospital in which he works, we will say, for instance, Harper Hospital in Detroit where I work with Dr. Whittaker and a number of other men who are in the delegation—and we have no complaint to make against the hospital because it is well organized and the physician is treated in as fine a way as it is possible for him to be treated.

However, it would be perfectly impossible for any individual or any small group of physicians to go to that hospital and say, "You people are hiring a large group of social workers at a tremendous expense and you are giving free medical service for patients whom we know are able to pay. We do not like to continue, we are willing to see indigent patients but not those who can pay."

The social workers would probably say, "You must realize that you have come to this hospital of your own accord. If you do not like the way things are you are always at liberty to leave."

If the County Society put the proposi-

tion in this way that no member could remain a member of his—if it were necessary to be that drastic (and it might not be necessary at all in the smaller counties)—Society or in good standing who would work in a clinic except on those cases that had a doctor's certificate that they were indigent, I think something could be done. That would mean that the doctor would have to see him in his office for nothing. He would have to see him many times for nothing.

If the physicians are unwilling to make single visits for nothing then they ought to turn this down. Most physicians would be willing to make a visit to a patient and then finding that the patient is indigent he will give that patient a slip to go to the hospital. That would work no hardship on anybody.

If the person was indigent and he went to one doctor and that one didn't think he needed help then the person could go to another doctor. Then if they found two or three didn't consider them they could take it to the County Medical Society and they would handle the unfair doctor as they saw fit. Every deserving patient would get free medical service just as they are receiving it now. It would rule out those not deserving free medical service.

The Bar Association had a convention in Detroit recently. They have begun to think about the question of free legal aid. They do not admit that anybody who comes recommended by a social worker is entitled to free legal aid. They are going to give free legal aid to any person who, in the opinion of the Bar Association is entitled to free legal aid.

There is no hardship that is going to be worked on anybody. The only thing it does is give some solidarity to the profession so that they are not acting as single agents to overcome an evil which is a very real one in the cities and which is working great hardship on the profession. (Applause)

Dr. Rupp: When I made that motion I thought we had won the thing. I think we ought to have this through unanimously and have every member thoroughly convinced on the proposition.

I wish to talk more fully to Dr. Denham and others who are not converted. This is a serious situation. I feel that this is the solution of a problem which is a very great one. We asked Mr. Norton of the Community Fund why the Wayne County Medical Society could not provide for an

investigating committee of all these cases. He said there are 80,000 cases and if there was \$1 provided for each case that would mean \$80,000.

Right here we are providing \$100,000 worth of investigation free of charge. It puts the investigating nurse, all the social agencies boosting for the free clinic and the state medicine and the receiving hospitals first on the case, instead of the local physician in the community where they found him.

If the local physician refuses to treat him he can give a statement to the nurse and she can go on with the case to the receiving hospital. That will provide for free medical care and they will get at least one call out of every physician that goes there.

There isn't a physician in Detroit so hard-hearted that he will not appear in an emergency. We are giving \$100,000 in calls to them for nothing by this arrangement. We are providing \$100,000 worth of investigation for nothing. It is putting the emphasis on the doctor's office as a health unit for that community. We are entitled to a bit of advertising and we will get it rightly through the work that we do in our own offices, charity work. Any charity you do in the free dispensaries boosts that community outfit, and not you.

I talked to the superintendent of the Dodge Community House. I said, "That is a nice bit of advertising the minister of the First Presbyterian gave your wonderfully complete surgical and medical clinic at Hamtramck."

He said, "We have a wonderful outfit. We have the young physicians coming from Harper Hospital and they give us a wonderful service. All of them are ambitious and of course they give wonderful service."

A few months later I ran across a case like this where a woman had been in the clinic. She didn't know who the doctor was who had looked at her throat. She went home and had throat trouble. They had no family physician. They didn't know who to call. They brought her down to the hospital that I am connected with and we found a case of severe diphtheria.

Had that family been trained by the social worker to have a family physician look after them a more adequate service would have been rendered. That had been an undiagnosed case for two or three days.

I am emphasizing the importance of the

best public health that can be given only to the public if they are tied up with the family health adviser and if they are tied up with them in their own community. The old-time family physician is the one we ought to emphasize. With all due regard and respect to the men doing the work in the free clinics, as I mentioned, it is not always fair to the others in the profession.

The Health Director of Hamtramck wrote a letter to the doctors asking them what they wanted and if they wanted a free clinic and every one of them cursed him. He told the Wayne County Society that it reflected the real attitude. It is not fair to the men in Hamtramck that the men from Harper Hospital should go over there.

A large number of the cases should be investigated by the physician and he should decide whether they are entitled to free aid or not. I think that is a very important thing. I think this will bring back the emphasis of the family physician as it should be.

Dr. Baumgarten: Dr. Rupp mentioned one instance of the Dodge clinic which received some very valuable publicity from one of the pulpits of our city a short time ago.

I hold in my hand a schedule which is posted around by the Dodge Clinic. Understand this is not for free patients, but this is what they advertise to their workers and anybody who wants to come.

Each visit is 25c, tonsilectomies \$5 to \$15, circumcision \$5 to \$15, operations at Harper Hospital are \$3.50 per day, pre-natal cases, home cases, pre-natal care and instructions are given by a visiting nurse of the Visiting Nurses' Association and they are attended at home by the staff physician and there is a delivery nurse at delivery. That is at the home. Hospital cases at Harper Hospital, attended by the staff physician, are priced at \$5. Exceptions are made to all free cases. That is printed at the bottom of it. Those prices are for the paid cases.

Dr. Rupp: I spoke to one of the ministers who is in charge of a community house and I asked him what he thought of the proposition.

He simply said, "You doctors are a bunch of fools. Don't you know and realize that the free clinics in your hospitals are drawing the practice away from your private office?" The layman can see that, why can't we?

Dr. Ellet: I would like to know if this situation exists outside of Wayne County? It seems to me that we are asking the House of Delegates to wash the dirty linen for Wayne County. Maybe I am wrong in that. If I am I will be glad to be set right.

I interned in Wayne County. I know what the work there is and what the chances are for a young doctor in Detroit. I got out of there and went into the sticks. It seems to me that the other cities that have had this proposition, like Grand Rapids or Flint, should say something, we should listen to them and find out what the situation is. I do not believe this exists all over, or at all in the smaller towns.

I do not think the House of Delegates should consider this. I think it should be referred back to the Wayne County Medical Society.

Dr. Marsh: I think the gentleman who just sat down hit the right idea. I would say that when it comes time for the Michigan State Medical Society to go into Wayne County and help them out of their difficulties that we have come to a pretty fine state of affairs.

I did the same thing as this other gentleman did, I got through going to school in Detroit and then I went out into the sticks. I do not make much money but I have a lot of fun. We do not have trouble with free clinics.

I would advise any of the gentlemen from Wayne County who think they cannot make enough money there and have to take care of too many free patients that they should come into the small towns. That is where life is worth living and you do not have troubles with free clinics.

This is a question for Wayne County to decide for themselves. It seems to me that we are taking up a lot of valuable time that we might be using for more profit otherwise. (Applause)

Dr. W. E. Barstow (Gratiot-Isabella-Clare): I hear these fellows talking about being out in the sticks and not coming up against this thing. I live out in the sticks too. I live in a little town of 3,000 or 4,000 and we are near a town of 7,000 or 8,000.

Right in our community we had a school nurse who was advertising to every child that she found in the schools, "Go to Dr. So-and-So and he will do this for you for \$5."

There was no question at all as to whether that doctor was able to do that

or not, and whether the patient was able to pay. We found out that a doctor was taking out tonsils for \$5 from the farmers who owned 200 or 300 acres of land. That happened in Gratiot County.

Of course, it isn't as prevalent as it is in the city of Detroit. I grant you that. We haven't the general free clinic but we do have the same question popping up in the little communities that you have in the big cities.

I think this is really a question for the State Society to pass on. It doesn't hurt the State Society to help Detroit clean their linen because I think all of us get a little of our own mixed in with it occasionally. (Applause)

Dr. Dutchess: I should like to point out that this afternoon a very generous consideration was given a problem that I believe was in South Haven. I am heartily in favor of that consideration.

I might point out what doesn't appear to be generally known, that the membership in Wayne County is almost half that of the State Society. I rather resent the implication that it is not the business of the State Society to assist in any concern of the Wayne County Society.

Dr. Henderson: I would ask the Speaker to ask some other gentlemen or delegates living in Grand Rapids, Lansing, Kalamazoo and a few of the other towns what they have to say about this. I have heard some remarks out in the anteroom and from them I think they have the same thing to contend with. If the shoe fits you, wear it. I do not like the remarks about Wayne's dirty linens being washed because we do not do it for Wayne alone.

Dr. Denham: We do have the same difficulties but we tackle them from a different angle. We tackle them through the staff of our hospital where our free clinics are located. We have one in hand right now which is being attacked by the staff members of that hospital. It strikes me that that is the proper way to approach it.

Dr. Andrews: I wish to concur with the men from Wayne County in the fact that the clinics are raising particular hob in our community. We have had a bit of a fight in the last year in Kalamazoo and we have spent something like three months attempting to arrive at a solution of this problem.

I happen to be chairman of the committee and we finally came upon the solution of the classification of every individual who applied at the clinic for aid in any

way, shape or manner. I feel that Wayne county does deserve some consideration in this matter.

Dr. Himmelhoch: If you will indulge with me to the extent of a few words, I think that Wayne is entitled to resent the attitude of the gentlemen who ask the various members of the Wayne delegation to go out into the sticks. I have no argument with anybody wishing to practice in the country, nor have I any argument with the individual who wishes to practice in the city. On the other hand, let that gentleman think of how quickly he would come to the State Medical Society with a problem that affected him in his local community of about 45 doctors in the county or any one of the 45 doctors there. I am perfectly certain he would come, as he is entitled to come, and just as the gentleman from South Haven came, to the delegates of the State Medical Society for help in his solution of the problem.

When he speaks so heatedly against the request of some members of Wayne County who come with a very serious problem to the House of Delegates he is being just a bit unfair. Wayne County gives his group and like groups a great deal more consideration than they are willing to give us.

Dr. Baumgarten: I do not believe the delegation from Wayne wants to be misunderstood in this matter. They do not want to have the House of Delegates go on record that every man should make a mistake, or should he make a mistake is going to be kicked out.

What it means is that if the House of Delegates here today passes such a resolution and if that is given a certain amount of publicity we can use that very same thing as a club in Wayne County to help get rid of our dirty linen. That is what we are after.

Dr. Garner: I believe that this evil spreads over every state in the Union. I know that there are certain classes of individuals who make a practice of getting something for nothing no matter how well provided they are with this world's goods. I believe that the medical profession should stand as a solid unit in making an effort to wipe out that class of individual and seeing that they pay for what they get.

In other words, separate them from the worthy ones, the ones that really are needy and need the help. They have these clinics and they are there with money, oftentimes

plenty of it, and they are treated. They make a business of that sort of thing. Those people make a business of going in and getting what they can and getting it for nothing just as much as the thief makes it his business to pick off anything he can get his hands on and get away with.

I believe it is up to us to stand as a solid unit in wiping out that condition. It will not only help the medical profession but it will help the layman in separating the honest from the dishonest. We are taking a step that will help to improve the honesty of the people in that class and will cut out the dishonest ones creating some means of finding out and separating them from the free clinics. I think we will have done an awfully good thing not only for the medical profession but for the layman.

Dr. Allen: I cannot see how a resolution from the House of Delegates is going to help these men materially with their problem in Wayne County. I have often wondered why any doctor should donate his time. The grocery man doesn't donate his groceries to poor patients for nothing. The county has general taxation.

Our problem in Bay County is being solved in that way. We are putting the burden on the county and letting their physicians take care of them. That is the way we are handling it there.

You wouldn't have the clinics in Detroit and everywhere else if the men weren't so much in favor of working in them and giving their time. Our clinic was disbanded because the men didn't give their time to the clinic. The thing was pushed over on the taxpayers of the county. That is really where it belongs.

If you can convince me how the resolution is going to help you I am perfectly willing to vote for it.

Dr. Carstens: I think we are all heartily in accord with the spirit behind the motion. I haven't heard anybody talking of having the populace in general treated by the state and for nothing. The discussion has possibly gotten a little bit away from the motion. That is the only thing I would like enlightenment on.

To me it would seem to resolve itself on this, that the decision as to whether the individual is entitled to free treatment is one that should be made by the local physician.

Some social service departments are exceedingly cursory in their investigation of cases. I know we have that problem in

Detroit and I know the local public health committee in the past has taken up the matter with certain agencies. It has improved matters very much.

That is a point that I confess I am not sure of. If a man comes into my office I know better than these social workers if he is entitled to free treatment or not. I am acquainted with him very well, I have seen much of him and I have had many discussions with him.

I am heartily in accord with everything that has been said against carelessness on the part of the social service individuals. In most institutions I think they try to investigate the cases thoroughly. Where they do not that is where the difficulty arises.

If an individual comes to my office and leaves his fur coat in the Ford sedan around the corner, then I am not sure whether I am better qualified to judge whether he can pay me than somebody else who visits him in his home and takes down definite data as to his income and so on. I think we are all in accord with the spirit and principle but I am not sure whether the solution is the best one.

Dr. Insley: A year or so ago the investigations of these paid patients was made by nurses finishing their training and taking their social service part of the course. I would hesitate to wonder whether they would be more capable of judging that patient than I am.

If they were trained social workers, all well and good, but a lot of them are not. In that connection it might be interesting to know that it is more or less common gossip that the Receiving Hospital in the city of Detroit has a much closer checkup on the patients than the clinics and they are not on a competitive basis. The other various clinics are more or less on a competitive basis.

Dr. Himmelhoch: I would like to ask Dr. Carstens one question. He is well acquainted with the subject. He is versed with the affairs at Harper Hospital where there is a very elaborate social service investigation. I would like to ask him whether it is the philosophy at Harper to see free patients or paid patients in the hospital, those patients to be attended by physicians without remuneration to the physician.

Dr. Carstens: I really do not know. I do not speak for Harper Hospital. I can tell you this, that Harper Hospital accepts staff patients who pay for their board and

room and receive the care of the staff of the hospital, which I believe is quite general in large hospitals.

Dr. Himmelhoch: Do the patients in the dispensaries pay fees to the hospital? What does Group 1, 2, 3, 4, stand for? Group 1 are the patients who pay fees that run up as high as \$15.

Group 2 are the patients who pay fees that are less than that.

Group 3 are something like 25c apiece and Group 4 is something like 50c apiece. They have urinalysis and blood counts and the patients complain that they do not want to come so often because they have to pay out \$2 or \$3 every time they come to the dispensary.

It is the theory of the social service that Group 4 should be eliminated. They are doing their best to eliminate any free work in the clinic. What the Wayne County group is trying to get as, if each individual has to act as an individual in combatting the social service organization they are perfectly helpless. If they get the backing of the State Medical Society—and incidentally get the backing of the County Society—they will be in a much better position to act.

The staff members are perfectly helpless at present unless they want to lose all the opportunities of hospitalizing their patients. They are in the position of taking what the social worker orders or leaving the hospital. But if the entire staff says that it is the sense of the State Medical Society—and incidentally the penalty in our County Medical Society is expulsion if you do it—and all the free clinics are faced with losing the entire medical staff, that will set them to thinking as to some solution of the problem. We are perfectly helpless unless we get that.

Dr. Southwick: I believe the majority of the delegates here are heartily in sympathy with the clinic problem as it is before the doctors today.

As far as doing a preponderance of free clinical work, I think most of us do our share. There is no profession that does it as much as the physician, with as little pay. I think some of the delegates from Wayne County have the wrong impression with regard to the rest of the members of the state. We are in sympathy with what they are up against. From my own point of view I believe this problem should be settled in each separate county.

I do not believe any group of delegates from Detroit, or the delegates from the

entire state, can set up a rule here that will be swallowed by the Board of Trustees of any hospital in the city of Detroit or throughout the state. We must remember that these hospitals are largely put up by public subscription, they are managed, in the majority of instances, by a Board of Trustees, the membership of which gives large amounts to the hospital and feels they should have something to do with the running of the hospital or with dictating the policy of the clinic.

It would be very nice for the profession if we could eliminate all the laymen from dictating the policies of the profession. Unfortunately, it has gradually gained ground year after year and the clinics have been enlarged until now it is going to take something more than a mere resolution of the assembled delegates of the Michigan State Medical Society to turn the clinics all out and put it either on a strictly charity basis handled entirely by the county or the city physician, or a paid basis going to your private office.

... The question was called for. . . .

Speaker Pyle: Is there any further discussion? You have heard the motion.

Dr. Baumgarten: In throwing this open again for a discussion does that mean that this motion must be in order or the thing is automatically dropped, or if another motion is not made this matter stands as it is?

Speaker Pyle: If another motion is not made it stands. We have been discussing the motion but it has been passed.

Dr. Rupp: Does it have to be voted on again?

Speaker Pyle: You moved to reconsider the motion and that was carried.

Dr. Allen: As I remember it, that was a motion to refer to the committee.

Speaker Pyle: It didn't carry.

Secretary: Mr. Speaker, for the information of the presiding officer, as well as the members of the House, the motion to reconsider places the question as the motion made by the doctor from Wayne. It is now a motion before the house. You have discussed it. The House now determines again whether it wishes to adopt this motion or whether it does not.

... The motion was put to a vote. The result of the vote was in doubt. . . .

... The result of a rising vote was as follows:

Favoring	38
Opposed	6

Speaker Pyle: The motion is carried. (Applause)

Is there any further business to come before us, gentlemen?

Dr. McClintic: I move we adjourn, sine die.

Dr. Baumgarten: I want to thank this delegation on behalf of Wayne County.

Secretary: Mr. Speaker, I think this has been a splendid session of the House of Delegates in which the problems that confront the profession have received just consideration and action by the House.

By the action of the House, through one of its reference committees, each delegate is supposed to go back to the County Society and transmit to it the activity that this state organization is engaged in for their individual benefit.

However, during the discussion of this morning, this afternoon and this evening one important feature of our state organizational work has not been touched upon. It is an extremely important feature and one which I feel that the members of this House of Delegates so well represented through the state should receive a little more information upon.

I am suggesting to you, in order that you may carry the information back to your county, that Dr. Tibbals, who for twenty years has been in the medical legal department, tell you of some of its problems in order that you, in turn, may take it back to your members.

Dr. Tibbals is the chairman of the committee. (Applause)

Dr. Tibbals: Gentlemen, I dropped in here because it was a very pleasant way of spending an evening. I had no expectation of doing more than being a listener. I haven't any special desire to say anything to you that you can take back to your county societies other than this, that we feel we are actively working at all times in your interest. We know that for the last twenty years something more than one per cent of the membership of the State Society have been sued annually, or threatened with suit, for civil malpractice. We know, from our experience of twenty years, that no man, whether he be high-brow or lowbrow, is ever safe from this menace. It is not the jayhawker doctor, the man whom you might all say is liable to make mistakes, but it is the good man as well. The menace is on all of us at all times.

We feel that we have an active and a

strong organization working in your defense. My personal feeling is that the defense offered the men in Michigan is the strongest possible defense because we have had twenty years of experience in medical legal work, and our general attorney, Mr. Barber, has had twenty-five years experience in this work. He knows the law on this better, in my opinion, than the average trial lawyer.

The thing for you to do, of course, and a lot of you have done it years ago, is to supplement the protection offered by the State Society by an insurance policy. The insurance company, working with your Medical Legal Committee, will offer you the strongest possible defense.

The reason you should all carry an insurance policy is that the State Society only defends you. They will carry you without expense to yourself through every Michigan court but in the event that you have been careless and that a jury has rendered an adverse verdict in the lower court, and the Supreme Court, on legal grounds, has not reversed it, then you are confronted with the necessity of digging down into your own "jeans" and paying that verdict. It is a very sweet thing if your house burns down to feel that you are fully insured. It is a very sweet thing if you have a judgment finally rendered against you to have an insurance company that has to put up the money to pay the judgment.

I think that is all I want to say! (Applause)

Secretary: Mr. Speaker, the Jackson County Medical Society has a thoroughly competent Secretary who has an all-enduring power. He has a brother-in-law by the name of O'Meara, Riley is the Secretary and O'Meara is his brother-in-law. I want to have O'Meara extend you an invitation from the pair. (Applause)

. . . Invitation to a luncheon extended by Dr. O'Meara. . . . (Applause)

Speaker Pyle: Before adjourning I would like to invite suggestions from you during the year. For instance, this is a big state and it believes in organized medicine. I have to appoint men to different committees. You men in your County Societies know who the workers are, men who will make good chairmen and members of committees. That doesn't mean that Dr. Jones might write that he wants so-and-so appointed and that he will be appointed because I cannot appoint every one of you. But, I would be glad if dur-

ing the year you would send me correspondence to that effect so I may know where there is good timber for committees.

Is there any other business to come before us?

Dr. Henderson: I move we adjourn.

. . . The motion was seconded and carried. . . .

. . . The meeting adjourned at nine-twenty o'clock. . . .

F. C. WARNSHUIS,
Secretary.

WOMAN'S AUXILIARY

Having celebrated our third birthday together at Jackson, in September, we are becoming better acquainted and feeling more like the happy family that we should.

Under Mrs. Kiefer's very able guidance the society has been so well organized that the work before us now is principally one of development. At present the following counties are organized: Barry, Bay, Calhoun, Jackson, Kalamazoo and Wayne. With members of the State Medical Society in nearly every county we should have many more actively interested women in the Auxiliary.

As you know the object of the society is "to extend the aims of the medical profession, through the wives of doctors to other organizations which look to the advancement of health and education. To assist in entertaining at all Michigan State Medical Conventions, to promote acquaintanceship among doctors' families that closer fellowship may exist and to do such work as may be assigned from time to time, by the Medical Society."

With dues of the State and County put purposely low so no one need be excluded and membership only limited by your husband's interest in his society, no doctor's wife should feel that she could not become a member. We would like to have each county take for its responsibility to organize, an adjacent county. Look at your map of Michigan; write or see your unorganized neighbor, plan a meeting with them, write your State Secretary, Mrs. J. E. McIntyre, of Lansing for a copy of the State constitution and by-laws and with very little formality a new society can be organized. Your State President also is ready to do all in her power to assist in organizing or helping in other ways.

Our main idea is acquaintance with one another, with the thought, that through our common interest, we may become good friends. In our work together it is our hope that we may be able to give to our husbands just a little more intelligent co-operation and interest in their work which is a very important one in this world of ours.

Very cordially yours,

Mrs. L. J. Harris,
State President.

MINUTES

The Third Annual Meeting of the Woman's Auxiliary to the Michigan State Medical Society was called to order at Jackson, Michigan, September 18, by the president, Mrs. Guy L. Kiefer.

Mrs. John Smith, of Jackson, extended a very cordial greeting to the guests numbering 110, and then introduced Mrs. Blackerby of Louisville, Ky., who is president of the Southern States Woman's Auxiliary. Mrs. Blackerby brought Kentucky greetings to Michigan and then went on to explain some of their aims and activities. There are 400 members in the Louisville Auxiliary. They are putting on a study course to familiarize themselves with state laws so they may be an aid to medical circles in every way. Some members have given health talks over the radio. One rural county has put Hygeia in every school in the county. Some counties are doing hospital work, some are working in day nurseries. In Louisville the auxiliary has furnished flowers to the hospitals, donated by various members. They have given parties for crippled children, have collected Sunday School papers, "funnies" and other papers and brought them to these crippled children. They take space in their State Medical Journal each month so the various auxiliaries may learn of all activities. They are compiling biographies of prominent physicians. The Historian takes care of this and will have this put in book form. They now have more than 200 men written up.

Mrs. Blackerby was a most charming woman and delightful speaker. She stayed just until her talk was given and then started on her long drive home, which would keep her on the road all night, but she was anxious that Michigan, a younger auxiliary, should hear what can and is being accomplished.

Mrs. Smith then introduced Dr. Arthur McCormack, secretary of the State Board of Health of Kentucky, who gave a very interesting talk of five minutes. Dr. McCormack and his father before him, also the secretary of the State Board of Health of Kentucky, are the only two men to hold that position in Kentucky. Dr. McCormack in his remarks said that the fine modern woman of today cannot be contented without rendering service to humanity. The best person to give information on health subjects to the various clubs is the wife of a doctor. Dr. McCormack said our important work lies in the rural communities. No civilization has lasted by building up of municipalities to the detriment of rural communities. We could not have built our fine roads, our universities, etc., if we had not put under control, for the country peoples as well as the city, tuberculosis, typhoid and other diseases. When our rural population becomes dissatisfied and will no longer be contented outside of cities, and we are fed by another country, before many centuries have passed we will belong to that foreign power.

Dr. McCormack mentioned the fine work done by Caroline Bartlett Crane in Kentucky 20 years ago improving sanitary conditions. They feel a very deep sense of gratitude in Kentucky toward Mrs. Crane.

In closing Dr. McCormack said we must realize our duty to civilization as wives of the grandest profession on earth. We should feel not only pride in what our forbears have done, but what our descendants may do, if we build our auxiliary wisely and well. The women of today have tremendous power and let us remember to use it well.

The guests were then entertained with two harp selections by Miss Lucille Brogan, daughter of a Jackson physician.

Mrs. Genevieve Dunn Smith then delighted the

audience with a vocal solo which was beautifully rendered.

Mrs. John Smith in a very charming way turned the meeting over to President Kiefer for the business session. Mrs. Kiefer in a few remarks complimented the Jackson ladies on the perfect organization they had formed and thanked them in behalf of all guests for their wonderful hospitality and their good fellowship.

The Secretary's minutes of the previous meeting were then read and accepted.

Reports of delegates from various counties were then read.

A representative from Berrien County then extended a very cordial invitation to meet there next year.

The treasurer's report showing the following was then read and accepted.

BAY COUNTY:

National dues	\$14.75
State dues	20.25
Total	\$35.00

CALHOUN COUNTY:

National dues	\$ 8.50
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BARRY COUNTY:

National dues	\$ 2.00
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INGHAM COUNTY:

National dues	\$11.75
State dues	35.25
Total	\$47.00

JACKSON COUNTY:

National dues	\$13.50
State dues	40.50
Total	\$54.00

KALAMAZOO COUNTY:

National dues	\$21.00
State dues	44.75
Total	\$65.75

SAGINAW COUNTY:

National dues	\$11.00
State dues	33.00
Total	\$44.00

WAYNE COUNTY:

National dues	\$67.25
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Check for \$114.50 was mailed the National treasurer, leaving a balance of \$20.25 National dues on hand and \$173.75 State dues on hand.

A motion was then made that the rules be suspended and the by-laws be amended to make the immediate past president a member of the Executive Board for one year. M. S. C.

Mrs. Conley of Detroit made a motion that the expenses of the Executive Committee attending meetings called by the president be paid out of the State funds. M. S. C.

A motion was made that bills amounting to \$23.75 be allowed Jackson County for the Annual Meeting. M. S. C.

The report of the nominating committee was then given by Mrs. Grant of Kalamazoo.

Mrs. L. J. Harris of Jackson for president.

Mrs. Hugo Freund, Detroit, vice-president.

It was moved that all rules be suspended and the secretary instructed to cast a vote for the above. M. S. C.

Vote was cast.

A few remarks were made by President-elect Mrs. Harris, who took the chair while President Kiefer gave her address, which will be found below.

It was moved by Mrs. Smith of Jackson that a copy of Mrs. Kiefer's address be sent to all county auxiliaries.

Mrs. Kiefer then called on Mrs. Crane for a few remarks, which were very well received. Mrs. Crane urged that we do more for our rural population, who are not up to par in health matters. We do not know the wives of our country physicians as we should. Why not make the effort to have some of our auxiliary meetings in the rural districts? No special program should be advocated, but do what we find to do at our own door. This is a very human organization if we will only make it so. Let this be our motto: "Do the next thing."

Mrs. Kiefer then introduced Mrs. Louis Hirschman, wife of the president of the Michigan State Medical Society, and Mrs. Barnes, wife of Dr. Barnes of the Rockefeller Foundation.

The meeting was then adjourned.

The Jackson ladies are to be complimented on the splendid entertainment given visitors. Every thing was done for their pleasure and comfort.

There were hostesses at the Hayes Hotel at all times to assist any one in need of help.

One day was given over to a trip through the new state prison, with luncheon served there.

Tea was served on the mezzanine floor of the Hayes Hotel on Thursday. The table was beautiful with flowers and candles; and during tea the guests were entertained with delightful vocal solos. Mrs. E. L. Peterson presided at the table.

The visitors all voted the Jackson auxiliary perfect hostesses and hoped they might sometime have an opportunity to repay their unfailing courtesy and kindness during the meeting.

Mrs. McIntyre, secretary-treasurer, will welcome any items of interest to the auxiliaries and will see that they appear on the Woman's page in the Journal. Won't each auxiliary try to mail something in each month?

PRESIDENT'S ADDRESS

Members of the Auxiliary:

Today's meeting marks the end of a two year period of existence of the Michigan State Auxiliary. This period has been largely one of organization. Your officers have exerted all their efforts along this line. During the first year county organizations were formed. Members of your executive committee and your President and Secretary visited a number of cities in the state in an attempt to add to the existing Auxiliaries. In some cases their efforts met with success, and the number of branch Societies grew somewhat the second year. However, there have been instances where your officers were unable to interest the local women. Therefore, no Auxiliaries have been formed in such places much to our regret. Accordingly, there still remains much work of organization for the incoming officers.

At the close of the last year your President made several recommendations. These recommendations met with some favorable comment but the work done for the carrying out of the same

does not seem to have been considerable. During the 1929 Legislature the doctors of the state were much interested in the passage of a so-called Qualifications Act. The principle requirements were that all candidates, who were desirous of taking a course to permit them to practice the healing art in any way whatsoever, should first meet certain educational requirements. The second bill that the doctors are interested in embodied certain amendments to the present Medical Registration Act. Both of these bills were defeated, largely due to the fact that they had not sufficient backing from the profession at large and from the Auxiliaries. The work of passing them was left to a comparatively small committee while the opposition, consisting largely of osteopaths, chiropractors, and other cultists, was well organized and represented by large numbers. It was by veto of the Governor that the chiropractic and osteopathic bills were defeated.

My reasons for rehearsing these facts to you at this time is to remind you that a similar state of affairs will present itself in the Legislature of 1931.

Undoubtedly the members of the State Medical Society will have legislation to present in 1931 which the women of the Auxiliaries should support. As soon as such legislation has been formulated the State Auxiliary should get busy and begin systematic work looking to the passage of the proposed laws.

At the last annual meeting much interest was shown by the membership in the establishment of county health units in the State of Michigan.

There are now four such units in existence. These are in Oakland, Saginaw, Wexford and Genessee Counties. The Legislature of 1929 added our amendment to the law allowing an appreciation of \$30,000 to be given by the state to counties in which county health units are established, provided, however, that not more than \$3,000 shall be allowed to any one county. The State Department of Health is making every effort to have the number of health units increased but they are not asking the establishment of a county health unit in any county unless the place has first been endorsed by a County Medical Society. The week of October seventh is the time when meetings are held by various County Boards of Supervisors at which appropriations are allowed. The State Department of Health expects that a number of boards will allow appropriations this coming month, but there can be no doubt that additional pressure at this time would help the cause along. Without desiring to make any recommendation along this line I would suggest that the officers of the various County Auxiliaries and the incoming officers of the State Auxiliary can, if they are interested, acquaint themselves with the situation by getting in touch with the State Department of Health, through the Deputy State Health Commissioner, Dr. Don Griswold.

In this brief report I have purposely refrained from making any definite recommendations. I wish to express my thanks to the Secretary, who has been faithful to her duties at all times, and to thank the members of the Executive Committee for their co-operation. I wish the Auxiliary continued success.

DRIED HOG STOMACH NEW CHEAPER

ANEMIA REMEDY

Dried stomachs of hogs are soon to vie with livers as the saviors of sufferers from pernicious anemia. This newest anemia remedy, made from one of the few unused parts of hogs, has just been developed and announced by Drs. Cyrus C. Sturgis and Raphael Isaacs of the Simpson Memorial Institute for Medical Research of the University of Michigan and Dr. Elwood A. Sharp of the Department of Experimental Medicine of Parke, Davis and Co.

An ounce of extract from the dried, ground stomachs of hogs is as effective a remedy in pernicious anemia as a half pound of raw liver or the amount of liver extract derived from this amount.

This is the latest step in the conquest of a disease, pernicious anemia, which a few years ago was in the category of the unvanquished ills of mankind. In 1926 it was found that by feeding liver to anemia patients their red blood corpuscles could be increased. Liver, once the poor man's meat, increased in price rapidly. Then the active principle in liver was extracted so that anemia patients could take small doses of the extract instead of eating large quantities of the liver itself. Now comes the new and cheaper source of the anti-anemia principle.

The new extract from hog stomach is not yet commercially available. But it should be far cheaper than liver or the costly liver extracts on which pernicious anemia patients until now have been dependent. Hogs' stomachs are largely a waste product, finding only slight use in the production of pepsin. The dried extract is practically tasteless and looks something like saw-

dust particles. Beef stomach and ox stomach are sold as tripe, which is a familiar food to many. Hog stomach, which has a different structure, is ground and dried to make the new extract.

An immediate increase in the number of red blood cells took place when this dried hog's stomach was fed to patients suffering from pernicious anemia. The increase was even greater than that following liver treatment.

The new remedy for pernicious anemia, dried hog's stomach, was partly inspired by the work of Dr. W. B. Castle of the Harvard Medical School and the Thorndyke Memorial Laboratory of Boston. In pernicious anemia the red blood cells fail to mature properly. Dr. Castle demonstrated that the stomach of normal persons secretes a substance which could develop a blood-maturing principle from meat. Consideration of this led to test the effect of stomach tissue itself. Working on much the same theory, Dr. Elwood A. Sharp of the Department of Experimental Medicine, Parke, Davis and Co., arrived at a similar decision. The three scientists then developed the new remedy together. Dr. Sharp believes it likely that liver or liver extracts supply an essential substance which is easily formed from ordinary food in the normal stomach but which is imperfectly or scantily formed in the abnormal type of stomach found in the patient suffering from pernicious anemia.

The search for this essential substance is now engaging the attention of the three scientists.—Science Service.

THE JOURNAL

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NOVEMBER, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

PAEDIATRIC CLINIC

A few months ago announcement was made of a fund set apart by Senator Couzens for the betterment of conditions surrounding childhood life in this state. The purpose of the fund was stated sufficiently broadly so as to include almost any movement that had for its object child welfare. The state of Michigan has been divided into three centers based on a survey of the various conditions affecting adversely the health of children and an effort will be made to increase knowledge pertaining to health and child welfare about these centers. Concerning these we hope to go more into detail in future numbers of the Journal.

The immediate subject, however, is the Paediatric Clinic to be given under the auspices of the Department of Post-Graduate Medicine at Ann Arbor on Tuesday,

November 26th. This Paediatric Clinic is made possible through the munificence of the Couzens fund. A splendid program is being presented, the details of which appear elsewhere in this number of the Journal. Beginning at ten o'clock, there will be a busy as well as profitable day. The subjects are such as to have a great appeal to men in general practice. There is also much of interest for the paediatrician. The personnel is of a very high order, each one an authority in his subject.

PRESIDENT RUTHVEN

The action of the Board of Regents of the University of Michigan in the selection of a President at this time is to be commended. That the position is a difficult one to fill no one doubts. An indefinite postponement, however, is not the best thing for the University; it means more or less doubt and indecision in regard to its policies. The position of University President demands rare qualities of wisdom and executive ability in a comparatively young person inasmuch as the physical demands of the office are too great to be undertaken by a man who is well into the sixth decade of life.

President Ruthven has the advantage of having grown up, so to speak, in the University. He has had ample opportunity to know its needs and his enthusiasm for its success is that of an alumnus. The appointment of an able head to the State University is a matter which concerns every physician in the state, owing to the fact that the University is a teaching institution for both under-graduate and graduate medicine. Chiefly does its future concern us since the organization of the Department of Post-Graduate Medicine which though really in its incipient years has shown great promise. President Ruthven has the best wishes of the medical profession of this state.

MORTALITY FROM ACCIDENTS

Dr. Louis I. Dublin of the Metropolitan Life Insurance Company presented some interesting statistics before the National Safety Congress which met in Chicago late in September. The United States heads the list of all important countries in the matter of fatal accidents. England and Wales for 1927 had 38 accidental deaths per 100,000 population; Scotland 50 per 100,000; Sweden 35 per 100,000; France 29 per 100,000 and Germany 36 per 100,000, while the United States had 78 per 100,000 popula-

tion. The number of fatal accidents in this country is perceptively increasing inasmuch as in 1928 there were more than had been reported for any previous year. Automobile accidents head the list being responsible for almost a third of the entire number. In 1898 27,500 deaths were recorded from motor vehicle accidents alone. During the same year 950,000 serious though non-fatal injuries were reported. Automobile accidents are more frequent in the rural districts than in the cities.

These statistics present a wholesome object lesson. The solution to the problem of diminishing the number of serious accidents is difficult and far-reaching. Probably the poor showing in the United States as contrasted with European countries is due to the fact of greater speed and haste in this country than in Europe. A partial remedy then would consist in slowing-up the pace with which Americans travel. There is an old proverb to the effect that one should proceed slowly because he has no time to lose. Accidents happen when one is forced or forces himself beyond his maximum of safety.

The problem of driving an automobile involves psychological factors such, for instance, as that of mental control, the ability to estimate distance with accuracy, and the degree of caution. Many who drive automobiles have the mentality and irresponsibility of a child. One method at least of diminishing the number of accidents involves greater care on the part of the tribunal issuing drivers' licenses. Accidents could also be prevented by requiring drivers of automobiles to be adequately insured, so as to take care of any damage they might cause. Inability, financial or physical, to obtain such insurance should of course disqualify the would-be driver.

Another source of danger is the occasional running of an automobile engine in a closed garage. In spite of repeated warnings there are those who will take chances too frequently with disastrous results to themselves.

M. D.'S IN EMBRYO

As the college year opens, over 6,000 students, carefully selected on the basis of college and high school ratings as well as upon various personal characteristics, begin work in seventy-five medical schools in this country. Two-thirds of the number begin their medical studies with college degrees. These young men and women spend their days in laboratories and lecture rooms; their evenings are,

or at least should be devoted to their textbooks. They live in an atmosphere saturated with medical terminology. They write from five to twenty examinations a year. Their chance conversations at dinner table or during the leisure hours of the week-end will be devoted to discussing this or that interesting case, or the uncanny insight of some diagnostician, or some difficult operation performed before them. The routine will be broken only during the summer recess when many of the students will attend further courses or do minor work about some hospital. In this way their four years are passed. They will be in contact, however, with many of the leading minds of the profession.

They will, if successful, obtain their medical degrees. Ninety-five per cent of them will spend a year interning in the hospitals; many will remain two or three years. Some will spend additional time in the graduate medical school. Finally this group of students will try to make practical use of their training. There is one of two alternatives for the majority of these men and women. Some will go to the smaller communities where they must practice medicine without the diagnostic equipment to which they have been accustomed. Those who locate in the smaller communities will achieve independence sooner and will be ministering to a real necessity. Others will go to the cities where the hospital facilities and the opportunities for specialization are adequate but on the whole in the hands of older and more experienced men. They will meet competition and the process of getting started will be prolonged and in many instances discouraging. Many will endeavor to supplement the so-called lean years by a salaried appointment in clinics or in industrial medical departments. It is difficult to advise. Those who work hard and intelligently will meet with a measure of success wherever they locate though with the tendency to medical paternalism, the new graduate will face problems that did not exist for the older generation of physicians.

SURE, WHY NOT?

Dr. F. E. Harrington, Commissioner of Health in Minneapolis, in an address before the American Public Health Association which held its 58th Annual Meeting recently in Minneapolis, urged that medical examinations with credits to count towards graduation be added to the public school curriculum. Educators as well as parents

will object that the school curriculum is already overcrowded and that it would be an imposition to require more work from the already overworked pupils. However, there is nothing quite so important as health education and physical development, nothing that is so intimately connected with the comfort and welfare of individuals. The American people are fast becoming health conscious and are reaching out often grasping at the straws of cultism in their eagerness for something definite on the subject of health. It will take some time to inaugurate a system of health education and it will be a matter for each state to consider. When we consider the millions of dollars annually that are spent on patent medicines, healing cults and quacks to no purpose, it is time that something were done to supply this legitimate demand for knowledge on the part of the people, and we know of no better way than to adopt some system of health education in the schools which would be looked upon as the so-called three "R's" are at present. Health education could be presented in such a way as to have a cultural as well as a practical value.

PROGRESSIVE RELAXATION*

There is no other single agent in the therapeutic armamentarium of the physician or surgeon that is more important for the patient than complete rest or relaxation. It is a condition in which the *vis medicatrix naturae* can work to the best possible advantage. In fact nature often compels it even when the physician may have overlooked its importance. The horizontal position places not only less stress upon the heart but is conducive to complete muscular relaxation as well. Rest may be used either alone or as an adjunct to any other method of treatment. Osler was wont to dwell upon the importance of this factor, "the ordinary high pressure business or professional man suffering from angina pectoris may find relief or even a cure in the simple process of slowing the engines." Especially is complete freedom from tension desirable in the management of the nervous element that complicates a large number of diseases There is a class of patient who is not prostrated or who is not definitely neurotic but who constitutes a problem in fatigue. Such persons are always below par.

The usual prescription for rest consists in putting the patient to bed, or the patient himself takes to bed owing to his inability to remain up. He does not know how to relax, however, and his restlessness may be thereby increased rather than diminished. While confined to bed he shifts about or assumes an uncomfortable position owing to muscular stiffness or rigidity. The so-called rest cure has been associated with the name of Wier Mitchell for nearly half a century. Wier Mitchell, however, did not recognize fully the relaxation factor. He stressed the importance of the elimination of distracting influences and insisted on hyper-nutrition. In fact he was inclined to emphasize the nutritional more than the rest factor in his prescription of rest treatment.

The problem of rest so far as we know has not been approached before from the scientific point of view. Jacobson has investigated the subject by isolating the effects of rest alone, differentiating between rest as a physiologic state and suggestion or other psychotherapeutic measures. The relaxation which he secures is muscular, because of reflex connections, the nervous system cannot be quieted except in conjunction with the muscular system for the whole organism rests as neuromuscular activity lessens. He enters extensively into a discussion of the technic of relaxation which in brief consists of teaching the patient or subject how to completely relax the various sets of muscles until tension is as nearly relieved as possible. It is relaxation by conscious effort or better negative effort. Simple as it may seem it is a matter requiring intelligent co-operation on the part of the patient as well as specialized knowledge, easily acquired, on the part of the physician.

Jacobson has endeavored to prove that muscular relaxation unaided by "suggestion" has an influence upon thinking, emotion and other so-called mental activities. This effect has been studied on the basis of experiments performed in the Psychological Laboratory of the University of Chicago over a period of two years. The nature of this experimentation he has discussed at length in his volume on Progressive Relaxation. To the medical reader his affirmative conclusions are convincing.

This work will well repay serious study by all physicians and surgeons inasmuch as there is no pathological condition which is not mitigated to some extent by complete rest, more so when carried to the point of complete muscular relaxation. The

* Progressive Relaxation—A Physiological and clinical investigation of muscular states and their significance in psychology and medical practice. Edmund Jacobson, A. M., Ph. D., M. D. The Physiological Laboratory, University of Chicago, University of Chicago Press, Chicago, Ill.

problem of rest bears about the same relaxation to general medicine as does dietetics. And no one will deny the importance of properly selected and properly regulated diet. The author has everywhere emphasized the fact that in the general practice of medicine and surgery neuromuscular methods, or relaxation methods, may be used along with diet, drugs, surgery, vaccines, hydrotherapy, electrotherapy and other therapeutic measures.

MICHIGAN'S MEDICAL HISTORY

The task of preparing a history of the medical profession of Michigan from pioneer days has been a colossal one. The committee under the able chairmanship of Dr. C. B. Burr of Flint, Mich., has reported progress to the council of the Michigan State Medical Society from time to time. The history is now practically complete in typewritten form and will be in the hands of the printer within a very short time. The editor has had the opportunity of reading a considerable portion of the copy and can assure the readers that the work is of very high merit. The medical society has been very fortunate in the choice of Dr. Burr as author and editor. The history is written in an attractive style with great emphasis on the intimate personal element. It reads like Cushing's *Life of Osler* which is admittedly one of the best biographies of the past fifty years. Dr. Burr has made many of the older physicians, who have long passed out of the scene, live again.

The work will be in two volumes. The first volume will be pushed forward and completed as rapidly as consistent with good typographical work. While we cannot publish anything definite at present in regard to the price, we are assured that it will be surprisingly low considering the great merit of the work. The price to the subscriber will be simply the cost of publication as the chairman and his collaborators have given their services without money and without price.

GUARDIANS OF MEDICINE

The better class of lay periodicals, particularly monthly magazines, have published from time to time articles dealing with chiefly the economical phases of medicine. Among the more recent is one in the August number of *Current History* on "The Cost of Medical Disorganization." Such articles including this are usually by laymen who are inclined to place the whole burden of the cost of medical care on the attendant physician. Commenting on the

situation, The Journal of the Tennessee Medical Society goes on to say:

"Such an impression is grossly misleading. One of the authors makes the suggestion that doctors feel that they own the science of medicine. This is not true.

"It may be truthfully said that the science of medicine belongs to humanity and it has been the job of doctors to see to it that no new discovery of value to humanity was monopolized by any individual or group of men anywhere. A medical discovery by a doctor does not belong to him even. It belongs to humanity and medicine has seen to it that the discoverer has no copyright and no patent right on the discovery.

"It may be said that doctors as such are the guardians of the science of medicine and from our observation of what happens with regard to other discoveries and from what has happened throughout all the history of medicine there is no group of men in existence more fitted to be the guardians than doctors.

"The art of medicine is another thing. It is essentially an individual matter. One man acquires an art. He cannot give it away and the practice of medicine is a science and an art. The fact prohibits the practice of medicine from ever becoming what some of our sociologists would attempt to make it."

COINCIDENCE, OR CAUSE AND EFFECT?

Substitution of tea for beer as the national beverage in England has probably been responsible for increased numbers of supersensitive and neurotic people, in the opinion of an English physiologist, Prof. W. E. Dixon. In fact, the growing tendency in civilized countries to substitute tea and coffee for stronger beverages has a bearing on the increased nervous irritability among highly civilized peoples at the present time according to this writer. "England was once a drunken nation. Before the revolution the consumption of beer alone in England and Wales was 90 gallons a head per annum; now it is about a quarter of this. With this diminution of beer drinking is associated a truly enormous increase in tea and coffee drinking." The present comparative sobriety is due in part to the high price of alcoholic liquors. Drinking is an expensive luxury in Great Britain if indulged in to excess.

It is hard to estimate how much nervousness is due to the increased use of tea and coffee. On the other hand excessive over indulgence in beer has its attendant consequences which are much worse. Probably in no other country is the consumption of coffee so great as in the United States. Even in the pre-Volsteadian days most families and in fact all restaurants and hotels served coffee at every meal. Doubtless the custom has tended to produce a nervous citizenry.

THE EDITOR'S EASY CHAIR

OLD ST. BARTHOLOMEW'S

There are localities in London that have an especial appeal to members of the medical profession. Not far west of St. Paul's and about a quarter of a mile north of Fleet Street is old Smithfield, known to history as the scene of martyrdom of more than one hundred men and women, both Catholic and Protestant, who were burned at the stake from the reign of Henry IV to that of Mary Tudor. The Great Fire of 1666,



St. Bartholomew's Hospital. The entrance to the old church is seen at the extreme left.

which followed the year of the Plague, stopped just short of Smithfield. It was also the scene of the Peasants' Revolt, or Watt Tyler's Rebellion (1381). The army of discontented peasants was met by the courageous boy King, Richard II, and as a result the assembled malcontents were soon dispersed. Watt Tyler was killed in an unfortunate altercation with the Lord Mayor of London at the time. History gives it this way: "Watt the Tyler mortally wounded but not dead had been carried into St. Bartholomew's Hospital adjoining and Smithfield was still occupied by bands of his men. Walworth (the Mayor) and his followers rode through these hesitant bodies, burst into the hospital, carried out Tyler—whether still living is not clear, and struck off his head."

SERVED SEVENTY-FIVE GENERATIONS

This part of old London contains St. Bartholomew's Church and Hospital. The 800th anniversary of the founding of the church was observed in 1923; the old sanctuary contains the grave of the founder, Rahere, a man of position at the Court of Henry I, who, in gratitude for health restored, founded both the church and hospital at Smithfield, which at the time was just outside of the north wall of the city. The church is so old that the ground around it has risen to such a degree that the approach is a gradual downward slope. The hospital is a parish in itself and

contains a small chapel. It is known as St. Bartholomew the Less; the parish in connection with the church is St. Bartholomew the Great.

The hospital, which is located around a huge quadrangle, is known to many physicians of this state, who may have visited it or may have spent time in post-graduate study there. The old hospital rendered service during the Black Death (1348), as well as during the Plague in 1665. It has served twenty-five generations of English people. If the old walls could speak what scenes might they unfold. It is clear that men came here with wounds made by lance and arrow sustained while fighting at Hastings or other battles of remote date, and most recently thousands of the wounded in the Great War were cared for here. In 1555-1557 the smoke of martyrs' fires rose "within a few feet" of its walls, according to a tablet at the northwest corner of the hospital. Both Roundheads and Cavaliers were ministered to side by side in the troubled times of the Stuarts. Throughout the centuries the good work has continued and at no time has the old hospital ministered more effectively than today. In 1552 the hospital contained nearly 100 beds; there are now 687. In-patients, in the middle of the 17th Century, averaged 684 annually. Out-Patients were at that time limited to 50 a week—2,600 in the course of a year. During 1923, 9,214 in-patients were treated in the hospital, while out-patients' attendances registered 342,941. Seven million patients are said to have passed through the gates of "Bart's" during the last 50 years—a mere fraction of the long story of its beneficence.



The Pool of Bethesda: painting by Hogarth on the wall of the staircase of St. Bartholomew's Hospital.

HERE HARVEY WORKED

A year ago the medical world celebrated the 300th anniversary of Harvey's announcement of his discovery of the circulation of the blood. It was in St. Bartholomew's Hospital that Harvey made his experiments, which were destined to form the foundation of modern medicine.

Another event of somewhat less importance was the production of Kirkes' Handbook of Physiology. This book, which was an early text of physiology for many of us, had not only its birth in old St. Bart's, but it had grown to manhood in the same institution. The first edition appeared in 1848; it was based on the lecture notes of Sir James Paget, who taught physiology at the time. Kirkes, the author, who was a student of Sir James, conceived the idea of preserving his master's lectures

* The editor is indebted to Dr. Stanley J. White, Parke Davis company, London, for his courtesy in sponsoring for him and guiding him through St. Bartholomew's Hospital. Dr. White is a graduate of the medical college connected with the institution. Also he is indebted for some of the data in this "Easy Chair" sketch to The Story of "Barts" by Herbert Bloye.

in permanent form, so that the first edition was really the work of Paget. Kirkes carried it along for a number of years, revising it in keeping with his own researches; each edition up to the year 1896 was the result of physiological experimentation and studies conducted in the old institution. In 1896 the editorship passed to Haliburton associated with Kings College, London.

Among the great men besides Harvey associated with old St. Bartholomew's was Percival Pott (1714-1788) whose place in medical history is commemorable by at least two pathological conditions the "Pott's Fracture" and Pott's Disease. He was surgeon to St. Bart's (1744 to 1787). It is said that one day he fell and sustained a fracture of the fibula. The enforced leisure turned him to writing and the result was a number of works which were authoritative for the time. Besides the pathologic conditions mentioned we have associated with his name Pott's aneurysm, Pott's curvature and Pott's paralysis. In the museum of the hospital may be seen the vertebrae in which Percival Pott noted the tuberculous condition which he was the first to describe.

Other noted men associated with St. Bartholomew's as benefactors or governors were Thomas a Becket, Thomas Gresham, author of the noted economic theory that "bad money drives out good money"; Richard Whittington, thrice Lord Mayor of London; William Clowes, surgeon to the Fleet that defeated the Spanish Armada; Dr. Caius whose name is associated with Caius College, Cambridge; John Abernethy, one of the greatest medical lecturers ever known of whom it is said that he lost a royal appointment by failing to respond to a call to attend George IV before he finished a lecture. He was a Professor of Medicine

at old Bart's. Abernethy was John Hunter's pupil and immediate successor. Hogarth the artist while governor of the hospital painted two large fescos which still adorn the great staircase to the left of the main entrance—many will recall them—The Pool of Bethesda and the Good Samaritan.

EVOLUTION OF TREATMENT METHODS

The evolution of methods of treatment to be found in the hospital records is not without interest. There were centuries of surgery without anesthetics when the only mode of relaxing the patient was the muscle power of the attendants. It is recorded, however, that chloroform was purchased by the hospital seventeen days after the announcement of the discovery of the anesthetic properties of the drug by Sir James Y. Simpson in November 1847. The hospital pharmacopoeia of 1670 contains a famous "Powder" which was "compounded of serpentary, angelica, crocus, and camphor from the vegetable kingdom, crabs claws and cochineal from the animal kingdom, together with antimony from among minerals." In 1837, the year that Queen Victoria ascended the throne 96,300 leeches were used in the hospital in addition to the wet and dry cuppings to which patients were subjected.

The "cupper" or "bleeder" was the only "specialist" recognized at the hospital before 1867. Now fourteen special departments are busy daily and the equipment is equal to that of any modern hospital in the world. This ancient pile of stone and mortar, for a great deal of it is ancient though succeeding centuries have seen it remodeled and enlarged, is the fruit of nearly a thousand years of civilized life, for there is no greater expression of humanity than a hospital.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The A. M. A. will hold its 1930 Annual Session in Detroit, the week of June 22nd.

The Annual Conference of State Secretaries will be held at A. M. A. Headquarters in Chicago on November 15 and 16.

The Joint Committee on Public Health Education will hold its fall meeting in Ann Arbor on Nov. 4th at noon.

The Annual Conference of Secretaries of our County Societies will be held at A. M. A. headquarters in Chicago sometime in January. The exact date will be imparted in December.

During the Jackson meeting someone exchanged overcoats with Dr. R. J. Hutchinson of Grand Rapids. The re-exchange can be made by writing to Dr. Hutchinson.

Dr. George LeFevre of Muskegon, for many years a member and President of the State Board

of Registration in Medicine, resigned, and his resignation was accepted by the Governor on October 16.

Dr. J. H. Dempster has taken on as associate Dr. R. W. McGeoch, for the past two years instructor in Roentgenology Medical Department University of Michigan.

Dr. Maxwell, professor of obstetrics and gynecology of the University of Pekin, China, spent two days the guest of Dr. Frank Kelly of Detroit early in October. Dr. Maxwell who has practiced for 31 years in China is at present interested in the subject of spinal anesthesia.

Dr. Walter K. Slack has taken over the practice of his father, Dr. Walter L. Slack of Saginaw upon his father's death. At present he is resident surgeon at the Presbyterian Eye, Ear and Throat Charity Hospital in Baltimore but will return to Saginaw permanently shortly.

Dr. J. R. Carter of the Michigan Department of Health addressed the Berrien County Medical So-

ciety at its July meeting. At the same meeting and due to no small measure to Dr. Carter's efforts the full-time Public Health Unit received a favorable vote.

At the annual meeting of Delta Omega, the honorary public health society, held in Minneapolis on October 2, 1929, during the convention of the American Public Health Association, C. C. Young, Ph. D., Dr. P. H., Director of the Bureau of Laboratories of the Michigan State Department of Health, was elected national president. John A. Ferrell, M. D., Dr. P. H., of the Rockefeller Foundation, New York, was elected national vice-president, and James A. Tobey, Dr. P. H., of New York, was re-elected national secretary-treasurer.

This year for the first time Hurley Hospital, Flint, has a full quota of internes. The Genesee County Medical Society welcomes them and hopes that their stay will be both pleasant and profitable. The names and places of graduation of these physicians are: A. L. Bonathan, K. B. Moore, G. L. Hagelshaw, R. G. White, and M. G. Butler from the University of Michigan; B. F. Sniderman, G. L. Case, M. D. Epstein, A. Cohen, from the University of Toronto; N. Lucius, A. Klomhaus from the University of Illinois; E. Jones, from the University of Kansas, and R. Coldwell, from the University of Wisconsin.

A bi-monthly pathological conference will be a feature of the staff program the coming winter.

Dr. F. C. Warnshuis, secretary of the Michigan State Medical Society, and business manager of this Journal, has been elected secretary of the Michigan State Board of Registration in Medicine to succeed Dr. Guy Connor of Detroit who has tendered his resignation. Dr. Warnshuis is the third person to occupy the position as secretary and Dr. B. D. Harison was the first and occupied the position from the formation of the Board until his death in 1925 when Dr. Guy Connor was appointed. Dr. Warnshuis was at one time a member of the Board of Registration, therefore succeeds Dr. Connor with experience of the duties of the office. The secretaryship does not necessitate the incumbent being a member. It is understood that the office will remain in Detroit where it was removed from Sault Ste. Marie twenty years ago.

The original building of the Detroit College of Medicine, corner of St. Antoine and Mullett streets, was closed on October 2nd by the Mayor of Detroit acting on instructions from the Fire Commission. The building had been considered unsafe from the viewpoint of fire hazard. In the meantime the college sessions for 1929 and 1930 will continue in the new building which was completed three years ago and has since been used as a laboratory building with one floor given over to the Wayne County Medical Library. The action of the Fire Commission was doubtless inspired by a fire that broke out recently in the old premises, 65 Vernor Highway, which were at one time owned and occupied by the Wayne County Medical Society. In this fire twenty-two lives were lost.

The Detroit College of Medicine has been a part of the higher educational institutions of the City of Detroit and under the control of the Board of Education for a number of years. In addition to the closing of the medical building three of the public schools of Detroit were closed for a similar reason.

All members of the board of trustees of the Michigan Tuberculosis sanatorium, which was abolished by an act of the last legislature, were appointed by Governor Fred W. Green as members of the commission that will govern the sanatoria of the state. The personnel of the new commission follows: Dr. Ernest J. Browne, of Howell, to serve until October, 1930; Dr. Edwin R. Vander Slice, of Lansing, to serve until October, 1930; Dr. E. J. O'Brien, of Detroit, to serve until October, 1931; Dr. Eugene N. Nesbitt, of Grand Rapids, to serve until October, 1931; Schuyler L. Marshall, of St. Johns, to serve until October, 1932, and Mrs. E. D. Stair, of Detroit, to serve until October, 1932. Under the new law creating the commission, Dr. Guy L. Kiefer, state health commissioner, will be chairman and an ex-officio member.

The following is the preliminary program of the Fourth Annual Clinic of the Highland Park Physicians Club to be held at the Highland Park General Hospital Thursday, December 5, 1929. Dr. Andri Crotti, Columbus, Ohio, Professor of Clinical Surgery, Ohio State University—subject: Goitre; Dr. Paul Titus, Pittsburgh, Pennsylvania, Obstetrician—subject: Problems in Eclampsia; Dr. George Carleton Hale, London, Ontario, Professor of Medicine, University of Western Ontario—subject: Cardio-Vascular Renal Disease; Dr. Jacob Louis Bubis, Cleveland, Ohio, Gynecologist—subject: Pelvic diseases; Dr. Horst Oertel, Montreal, Quebec, Professor of Pathology McGill University—subject to be announced; Dr. Edwin N. Kime, Indianapolis, Indiana, Department of Medicine, University of Indiana—subject: Physio-therapy; Dr. George A. Ramsey, London, Ontario, Professor of Orthopedic Surgery, University of Western Ontario—subject: Bone and Joint Diseases in Children; Dr. Isaac A. Abt, Chicago, Illinois, Professor of Pediatrics, Northwestern University Medical School—subject to be announced; Dr. Chas. Phillip Emerson, Indianapolis, Indiana, Dean and Professor of Medicine, Indiana Medical School—subject: Gastro-Intestinal Diseases.

Address of Welcome, by Mayor Shields.

Address, Dr. J. D. Brook, Grandville, Michigan. President Michigan State Medical Society.

Banquet in evening at Masonic Temple, H. P.

Address, Gus W. Dyer, Vanderbilt University, Nashville, Tennessee. The outstanding orator of the middle west. Subject: Fundamental Americanism.

At the Annual Meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Articles of Association were adopted of what is now known as the American Association of Obstetricians, Gynecol-

ogists and Abdominal Surgeons Foundation Incorporated. The purpose of this auxiliary organization is the promotion and dissemination of theoretical and practical knowledge of the subjects of obstetrics, gynecology and abdominal surgery and their allied branches. There are forty-eight incorporators. The organization was incorporated under the laws of the State of Michigan though meetings of the Board of Directors may be held in either United States or Canada. The immediate activities of the new organization will be devoted to urging better teaching of obstetrics in medical colleges, placing the subject on a par with surgery. An appeal is being made to the Deans of all medical schools stressing the need of this reform. An effort will be made towards making pre-natal care universal. Propaganda will be launched for the better understanding of the importance of maternal welfare among the members of women's clubs, health centers and parent-teachers associations. Three members of the Michigan State Medical Society have been chosen as officers for the ensuing year with the power of conducting business for the next twelve months. They are as follows: President, Dr. G. Van Amber Brown, Detroit; Dr. Alexander M. Campbell, Vice-President, Grand Rapids; Dr. James E. Davis, Secretary, Detroit, Mich.

A very pleasant event took place on the evening of October 2nd at the Beach Grove Country Club, Walkerville, Ontario, under the auspices of the Officers of the Royal Army Medical Corps (British) and the Officers of the Allied Corps, when a dinner was given at which the Colors and Insignia of the Royal Army Medical Corps were presented to Dr. McLean, of Detroit, who while in London, England in May last was made an honorary member of the Royal Army Medical Corps Officers' Mess. There were approximately 250 present representing both medical and civilian population of Detroit, Windsor and Walkerville. Presentation was made by Mr. John A. Cameron the British Consul who is stationed at Detroit. The dinner was preluded by a number of bagpipe selections and by songs by Detroit's noted Scotch baritone, Cameron McLean. Judge Alfred J. Murphy was toastmaster. Appropriate addresses were made by Eccles J. Gott, M. P. Canadian Parliament, Col. H. R. Casgrain who had seen service in the late war on the Island of Lemnos in the Aegean Sea, also by Count Berni-Canani, Italian Consul and Lieut. Col. Rolland Parmeter, representing Base Hospital No. 17, A. E. F.

Mr. Cameron, Consul, in making the presentation of the Colors and Insignia to Dr. Angus McLean referred fittingly to Dr. McLean's services at Dijon, France, when at one time seven hundred British wounded were placed in his charge where many blood transfusions were made from American veins to save the lives of the British soldiers. Of seven hundred only one was lost. The speaker referred to what he termed the distinguished part that Dr. McLean played in the greatest and worst war of history. But all his efforts were to save and not to kill.

Dr. McLean in a brief well worded address recounted his experiences and expressed his appreciation of the honor conferred upon him by the decoration.

A year and a half ago Dr. McLean received a similar honor when the Colors and Insignia of Poland were presented to him by Poland's representative in this state.

DEATHS

Dr. Clarence G. Sayers

Dr. Clarence G. Sayers of Detroit was found dead in his garage early in October. He had received a call about 3 o'clock in the morning and had gone into his garage through a small door, started his machine and then proceeded to open the rear doors of the garage to back out when he was overcome by gas from the exhaust of his automobile. He was found 20 minutes later when life had become extinct. Dr. Sayers was born in Picton, Ontario, 50 years ago. He was educated in the Detroit schools and had graduated from the Detroit College of Medicine in 1904. He is survived by his wife and by two children, Marvin age 15 and Virginia age 13. Dr. Sayers was a member of the Wayne County Medical Society and the Michigan State Medical Society.

Dr. W. M. Weller

Dr. W. M. Weller, a prominent physician of Gratiot County, died August 31, 1929, after more than two years of suffering from arterio sclerosis. He was born in Clinton County, Mich., in 1858, received his early education in the common schools and taught a few years before taking his course in medicine at the University of Michigan which he completed in 1882. His first location was at Pomei, Mich., where he practised for four years. He then took a post-graduate course at Bellevue Hospital, New York and resumed the practice of medicine at Ithaca, Mich., in 1887 where he has since lived. Gratiot County received the whole of his 44 years of professional life. Dr. Weller was one of the organizers of the Gratiot County Medical Society and served as its first Secretary and Treasurer and later as its President. He was also a member of the State Medical Society and a Fellow of the American Medical Association. He leaves a wife and two children, Dr. C. N. Weller of Detroit, Mich., and Mrs. Lewis Reed of Sault Ste. Marie.

Dr. Chester A. Norconk

Dr. Chester A. Norconk of Bear Lake, Michigan, died suddenly September 23rd while attending a patient. Dr. Norconk, who was 75 years old, had practised at Bear Lake for 43 years. He was graduated from the University of Michigan School of Medicine in 1885. Besides the widow he is survived by a son, Dr. Ward H. Norconk, who succeeded him in his practice, and seven brothers.

Dr. W. H. Atterbury

Dr. W. H. Atterbury of Litchfield, Hillsdale County, died of heart disease early in September. He was born March 21, 1870, at Three Rivers, Mich., and came to Litchfield 34 years ago upon his graduation from medical college at the University of Michigan, establishing and maintaining a successful and thriving practice there, except for 19 months which he served with the medical division of the expeditionary forces, part of the time in France, in the World War, from which he emerged with the rank of captain. On February 12, 1902, he was united in marriage to Jennie Hawkins, who with a daughter, Mrs. Milton Magel

of Battle Creek, and two sisters, Mrs. B. F. Askins of Otsego, and Mrs. Robert A. McMullen of Milwaukee, survive him.

COMMUNICATIONS

To the Editor:

The Wexford County Medical Society last fall invited me to present the acid-milk demonstration at one of their meetings. It was quite flattering to note the close attention given my spiel by Dr. Moore, Wexford County's aggressive, full-time health officer. I visioned "butter-milk" being made official fodder at his 25 baby stations, but later incidents suggest that his interest may have been misinterpreted.

At a recent P. G. Conference at Traverse City, he called to me across the table that he had fed "my" (Marriott's) acid-milk formula to one hundred baby *foxes*, with a resultant mortality of none per cent, which he implied was highly unusual. As I confessed ignorance of vulpine nutritional problems, he divulged that let ye infant fox get a bit too much or too strong sweet milk, and he will be found, the morning after, with four feet pointing skyward, swollen up like a poisoned toad. In fact, he said that his skeptical men became so sold on acid-milk that they were quite hysterical whenever the supply of lactic acid threatened extinction.

It is hoped that the doctor may since have found lactic-milk also useful for wee human varmint.

Central Lake, Oct. 15, 1929.

Don Duffie.

Dr. F. C. Warnshuis, Secretary:

I wish to inform you that the recent Post-Graduate Conference held at Traverse City on October 11th was a success.

The speakers were all very good and some forty-five physicians attended the Conference and gave their whole time to the program. Dr. Brooks of Detroit, Dr. Hodgen of Grand Rapids, Dr. Schermerhorn of Grand Rapids, and Dr. Griswold of the State Board of Health took part in the program and were all at their best.

I wish to thank you in behalf of the members of the Ninth District for helping to arrange such a satisfactory program and hope that we may have another meeting early in April.

Very respectfully,

Otto L. Ricker, M. D.
Councilor.

September 28, 1929.

Dr. F. C. Warnshuis, Secretary,
Michigan State Medical Society,
1508 G. R. National Bank Building,
Grand Rapids, Michigan.

Dear Dr. Warnshuis:

We received your letter yesterday with official notification of the first prize award at the recent State Meeting in Jackson. The award has been equally divided among the four of us who co-

operated in furnishing material for the state exhibit; that is, Dr. H. P. Doub, Dr. John Mateer, Dr. F. Janny Smith, and myself. In behalf of the group and in behalf of the hospital allow me to tell you we appreciate this recognition of our efforts very much and we hope to be able to help you in this line whenever we are called on. Personally, I am convinced that the well arranged, well conducted, and well demonstrated scientific exhibit has as much or more teaching value than the scientific papers which are presented. The teaching value is not alone for the members who visit the exhibit. The exhibitor who stays by his material and demonstrates it learns a great deal, if not as much, as the one to whom he demonstrates.

We would like to tell you also how much we appreciate the interest and co-operation of yourself and Dr. German in our work and the work of other exhibitors. I beg to remain

Very sincerely yours,

F. W. Hartman, Pathologist,
Henry Ford Hospital,
Department of Laboratories.

CAUSE OF CANCER UNKNOWN DESPITE MANY THEORIES

In spite of much research and many theories nothing is yet known of the cause of cancer, if it has a single cause, according to Dr. Shields Warren of the Palmer Memorial Hospital, Boston. "While there is no one accepted cause of cancer, there are certain theories that are useful as working hypotheses," said Dr. Warren.

The reported discoveries, from time to time, of a parasite as a cause of cancer have raised hope. Among these Dr. Warren mentioned the work of Dr. Gye in England which unfortunately was not confirmed.

Many theories that special foods or substances cause cancer have been raised. Civilization has been blamed as a cause of this disease. But all of these theories have proved untenable.

The theory of chronic irritation covers many of the cancers that occur in human beings, but it is to a certain extent a superficial explanation, Dr. Warren declared. Prolonged chronic irritation of tissues stimulates cell growth and brings about unknown changes in the tissues which favor the development of cancer. Many types of chronic irritation do not go on to develop cancer, but many cases of cancer may be traced to long standing irritation.

Heredity has been considered a cause of cancer. Proof of this theory has ranged from examples of so-called cancer families or cancer villages to the painstaking work of Dr. Maude Slye. Dr. Slye proved by very careful and extensive experiments that in mice there is a hereditary predisposition to cancer, but it is questionable as to whether her findings are applicable to human beings, Dr. Warren explained. The so-called cancer villages are usually found to be inhabited largely by older people among whom the prevalence of cancer is always greater, no matter where they live.

"Certainly we are safe in saying that at the present time heredity is not considered of importance as a cause of cancer," Dr. Warren declared. While the cause of cancer is still unknown, enough facts are known about cancer to make its behavior less incomprehensible and its treatment more hopeful.—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

The Couzen's Children Fund of Michigan

Presents

A Conference on the Diseases of Infancy and Childhood

Directed by

The University Medical School

and

The Michigan State Medical Society

ANN ARBOR, MICHIGAN — TUESDAY, NOVEMBER 26, 1929

UNIVERSITY HOSPITAL

10:00 A. M. The alimentary tract of infancy and childhood. (Presenting a simple, workable classification of conditions commonly seen, with practical methods of treatment.)

- a) Feeding the normal case.
- b) Colic.
- c) The nervous, irritable, hypertonic infant.
- d) Athrepsia or atrophy.
- e) Diarrhea.
- f) Intoxication.
- g) Round table discussion.

—Julius H. Hess, Professor of Pediatrics, College of Medicine, University of Illinois, Chicago.

12:00 M. Demonstration of the teaching of diet to children.

—Frances B. Floore.

12:30 P. M. Luncheon.

1:30 P. M. The practising physician's part in the prevention of contagious diseases of children. Guy L. Kiefer.

2:00 P. M. Physical examination of children with demonstration. David M. Cowie.

2:30 P. M. Treatment of common skin conditions of infancy and childhood. Udo J. Wile.

3:00 P. M. Nephritis, allied conditions, etc.: Simple classifications and treatment. Moses Cooperstock.

3:30 P. M. Gradient idea of Alvarez with special reference to its clinical application to infancy and childhood. David M. Cowie.

4:00 P. M. Demonstration.

- a) Sensitization tests.
- b) Schick test.
- c) Dick test.
- d) Blanching test.
- e) Coagulation time of blood

—Dr. Cowie and Staff.

POST GRADUATE CONFERENCES

In October Post-Graduate Conferences were held in Traverse City, Benton Harbor, Alpena, Houghton, Marquette and Howell.

Conferences will be held in November in Flint, Battle Creek, Ann Arbor and Jackson. These will terminate the Conference program for this year.

AN ATTRACTIVE PROGRAM

The Pediatric and Infectious Disease Society of the Pediatric Department of the University Medical School presents a program at the University Hospital, Ann Arbor, November 8 and 9, to which the profession is invited.

The program opens at 2:00 o'clock Friday afternoon with a discussion on Meningococcus Meningitis by Dr. Wm. S. O'Donnell and Dr. R. M. Kempton, followed by a discussion of the Rheumatic Syndrome by Dr. S. J. Levin. The afternoon program is concluded by a discussion of The Role of Infusion and Transfusion in the Treatment of Diarrhea by Dr. L. Devil and M. Cooperstock.

The Society extends a cordial invitation to all our members to attend this interesting session.

FRIDAY EVENING

November 8, 1929—7:30 o'clock

Meeting called to order by President.

Reading of minutes.

Election of officers for ensuing year—President, Vice-President, Secretary-Treasurer, Council.

President's Address—Infantile Pulmonary Tuberculosis Due to an Unusual Type of Tubercle Bacilli. Dr. Paul Beaven, Rochester, N. Y.

Present Status of Bacteriophage in the Treatment of Colon Infections of the KUB Tract. Dr. D. Murray Cowie, Ann Arbor.

Bacteriological Aspects of Bacillus Abortus Infections (Undulant Fever) in Man and Animals. Dr. Malcolm Soule, Associate Professor of Bacteriology, University of Michigan, Ann Arbor. By Invitation.

Role of Antibodies in Human Skin Reactions. Dr. Wm. Redfern, Ann Arbor. By Invitation.

Fractional Pollen Antigens in the Treatment of Hay Fever. Dr. Dorman E. Lichty, Ann Arbor. By Invitation.

Observations on Sensitization Patients. Dr. B. Jimenez, Ann Arbor. By Invitation.

Title to be Announced. Dr. Leon DeVel, Grand Rapids.

Meningococcus Meningitis in Lansing, 1929. Dr. F. Sander, Lansing.

Report of Three Cases of Ulcerative Colitis in Children. Dr. Trevor E. Browne, Battle Creek.

SATURDAY MORNING

November 9- 1929—9:00 o'clock

Unusual Case of Erythema Multiforme, Fatal. Dr. A. Luvern Haye, Ann Arbor, and Dr. Clement Smith, Ann Arbor.

Inhalation of Iodin Vapor in the Treatment of Chronic Laryngitis in Children. Dr. Wm. D. Lyon, Akron, Ohio.

Individual Selection of Formulas in Infants. Dr. Gustave Weinfeld, Chicago.

The Ergosterol Question in Relation to Rickets. Dr. Katharine M. Jarvis, Ann Arbor.

Rate of Immunization with Diphtheria Toxoid. Dr. M. Cooperstock, Ann Arbor; Dr. Gustave Weinfeld, Chicago, and Dr. A. Luvern Hays, Ann Arbor.

Acute Nephritis in Children. Dr. Samuel J. Levin, Detroit. Discussion opened by Dr. Wm. S. O'Donnell.

Filterable Forms of Bacteria. Dr. Phillip Hadley, Associate Professor of Bacteriology, University of Michigan, Ann Arbor. By Invitation.

Evaluation of the Kahn Test in Children. Dr. Gordon Manace, Ann Arbor. Discussion opened by Dr. Reuben L. Kahn.

MICHIGAN STATE MEDICAL SOCIETY POST GRADUATE CONFERENCE HOUGHTON, MICHIGAN—OCT. 30, 1929 HOUGHTON CLUB

PROGRAM

- 1:30 P. M. End Results of Operations for Carcinoma of the Breast. Richard R. Smith, M. D., Grand Rapids.
- 2:00 P. M. The Artificial Feeding of Infants. William S. O'Donnell, M. D., Detroit.
- 2:30 P. M. Recent Therapeutic Advances. Richard M. McKean, M. D., Detroit.
- 3:00 P. M. General Management of Gynecological Lesions Due to Childbirth. Richard R. Smith, M. D., Grand Rapids.
- 3:30 P. M. Acute Respiratory Infections. William S. O'Donnell, M. D., Detroit.
- 4:00 P. M. The Management of the Cardiac Diseases. Richard M. McKean, M. D., Detroit.

This same program was repeated in Marquette.

POST-GRADUATE CONFERENCE—STATE HOSPITAL—TRAVERSE CITY, MICHIGAN FRIDAY, OCTOBER 11, 1929

PROGRAM

- 8-10 A. M. Goiter Clinic. Clark D. Brooks, M. D., Detroit.
- 10-11 A. M. Injuries to the Newborn. L. J. Schermerhorn, M. D., Grand Rapids.
- 11-12 A. M. Meningitis and Diphtheria. Don Griswold, M. D., Lansing.
- 12 M. Dinner
- Hospitalization of the Insane. George F. Inch, M. D., Traverse City.
- County Health Unit. Don Griswold, M. D., Lansing.
- State Society Activities. O. L. Ricker, M. D., Councilor, Cadillac.
- 1- 2 P. M. Fractures. J. T. Hodgen, M. D., Grand Rapids.
- 2- 3 P. M. Causes of Respiratory Difficulty in Infancy and Childhood. L. J. Schermerhorn, M. D., Grand Rapids.
- 3- 4 P. M. Gall-Bladder—Diagnosis and Treatment. Clark D. Brooks, M. D., Detroit.
- 4- 5 P. M. Common Orthopedic Measures. J. T. Hodgen, M. D., Grand Rapids.

THE AEREO-MEDICAL ASSOCIATION

The supervision of American air service has been assumed by the U. S. Department of Commerce, which has created a sub-department of aeronautics. This department has two subdivisions: the technical, dealing with the licensing of planes, their inspection, the rules governing flying, airports, etc., and the medical, dealing with the physical standards for pilots and the medical examination of pilots.

The medical division is headed by Dr. L. S. Bauer, who has had a wide and extended experience in this special field. Dr. Bauer has set a high and exacting standard of physical fitness for pilots. No pilot can obtain a license to fly unless he passes this physical examination. Having once passed, the pilot must undergo a re-examination every six months and should a pilot during any re-examination reveal a disqualifying defect he is grounded until the defect is removed. Throughout the country Dr. Bauer has appointed some 800 doctors to whom pilots report for their physical examinations.

Flying is a comparative infant avocation. There are many problems uncovering themselves as experiences broaden. The pilot's physical fitness and physical changes, after several hundred hours of flying, is opening new conditions as to what are disqualifying defects. No standards exist by which conclusions can be reached, for man has never before worked in the air.

Because of these factors and the need of wide observations and study the some 800 medical examiners under Dr. Bauer's leadership felt that an organization, holding one or two meetings a year would centralize their activities and enable them to pool their observations thereby eventually formulating dependable conclusions. In consequence the American Aero-Medical Association was organized in Detroit on October 7 following a three day session that was attended by over a hundred medical examiners from the army and navy. Dr. Bauer was elected the first president and Dr. W. B. Smith of Wethersfield, Conn., was elected Secretary.

"WHAT'S DOING"

You who have failed to keep abreast of your Society progress and activity have an opportunity to learn "what's doing." This issue contains the minutes of our Jackson Annual Meeting. The September Journal contained the committee reports.

Take these two issues and read the reports and official minutes. They will impart to you some very pertinent facts.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

Regular semi-annual meeting held at the Hotel Olds, Lansing, Michigan, at 8 P. M., October 9th, 1929.

PRESENT:

Drs. George L. LeFevre	Albertus Nyland
Frank A. Kelly	J. Earl McIntyre
Nelson McLaughlin	W. A. Lemire
J. D. Brook	W. Ellwood Tew
W. H. Marshall	

ABSENT: Dr. Guy L. Connor.

Dr. George L. LeFevre, President, in the Chair. The meeting was called to order by the President.

Dr. W. Ellwood Tew, of Bessemer, Michigan, submitted his commission from Governor Green, appointing him as a member of the Board of Registration in Medicine.

The President read the following telegram:

"Detroit, Michigan,
October 4th, 1929.

Dr. George L. LeFevre, President.

Michigan State Board of Registration in Medicine, Muskegon, Michigan.

I hereby present my resignation as Secretary of the Board of Registration in Medicine, to take effect Monday, October 7th, 1929.

(Signed) Guy L. Connor."

By Dr. McLaughlin, seconded by Dr. McIntyre:

RESOLVED: That the resignation of Dr. Connor, as Secretary of the Board of Registration in Medicine, be accepted, and a letter of appreciation be sent to Dr. Connor by this Board, in recognition of the valuable services rendered.

Yeas: 9. Nays: 0. Motion carried.

ELECTION OF OFFICERS

By Dr. Brook, seconded by Dr. McLaughlin:

RESOLVED, That the Board proceed to the election of officers for the ensuing term of two years, October, 1929, to October, 1931.

Yeas: 9. Nays: 0. Motion carried.

Upon motion, Dr. Brook in the Chair.

By Dr. Kelly, seconded by Dr. McLaughlin:

RESOLVED, That Dr. George L. LeFevre be nominated President for the ensuing term of two years.

Yeas: 9. Nays: 0. Motion carried.

No other nominations being made, the Chair declared the nomination for President closed.

By Dr. Brook, seconded by Dr. McIntyre:

RESOLVED, That the rules be suspended and that Dr. LeFevre be declared, by vote, President of this Board.

Yeas: 9. Nays: 0. Motion carried.

The Chair announced that the unanimous vote of the members of the Board has been cast for Dr. LeFevre as President.

Upon motion, the President-elect, Dr. LeFevre, in the Chair.

By Dr. Kelly, seconded by Dr. McIntyre:

RESOLVED, That Dr. F. C. Warnshuis be nominated Secretary for the ensuing term of two years.

Yeas: 8. Nays: 0. Motion carried.

No other nominations being made, the rules were suspended and the election of a Secretary postponed for two hours, to permit Dr. Warnshuis to appear at the meeting.

READING OF MINUTES

In the absence of the Secretary, the minutes were read by the President.

No objection being raised, the Chairman declared the minutes of the meeting held in Ann Arbor, June 12th, 1929, adopted as read.

The President announced the following Committees and Examiners for 1929-31:

Dr. George L. LeFevre—Surgery.

Dr. Frank A. Kelly—Obstetrics and Gynecology.

Dr. Nelson McLaughlin—Physiology.

Dr. J. D. Brook—Practice of Medicine.

Dr. Albertus Nyland—Anatomy.

Dr. W. H. Marshall—Pathology.

Dr. J. Earl McIntyre—Bacteriology and Eye, Ear, Nose and Throat.

Dr. W. A. Lemire—Hygiene and Public Health and Medical Jurisprudence.

Dr. W. Ellwood Tew—Chemistry and Toxicology; Histology and Embryology; Materia Medica and Therapeutics.

REGISTRATION AND STANDARD COMMITTEE

Dr. J. D. Brook, Chairman.

Dr. Albertus Nyland.

Dr. Nelson McLaughlin.

Dr. Frank A. Kelly.

Dr. W. H. Marshall.

LEGISLATIVE COMMITTEE

Dr. Frank A. Kelly, Chairman.

Dr. Nelson McLaughlin.

Dr. J. D. Brook.

Dr. J. E. McIntyre.

Dr. W. Ellwood Tew.

EXAMINATION COMMITTEE

Dr. Albertus Nyland, Chairman.

Dr. W. H. Marshall.

Dr. W. A. Lemire.

Dr. J. E. McIntyre.

AUDITING COMMITTEE

Dr. Nelson McLaughlin, Chairman.

Dr. W. A. Lemire.

REPORT OF LEGISLATIVE COMMITTEE

The Chairman reported that there were no matters before the Legislative Committee at this time.

REPORT OF THE EXAMINATION COMMITTEE

The Chairman submitted the report of the June, 1929, examination, at Ann Arbor.

REPORT OF THE AUDITING COMMITTEE

Dr. Nelson McLaughlin, Chairman.

Dr. W. A. Lemire.

The Committee reported that the books and accounts had been audited by the Auditor General's Office, and that they had no further report to make at this time, as they had been found correct.

MISCELLANEOUS

Re: Meharry Medical College, Nashville, Tenn.

Dr. J. J. Mullooney, President of the Meharry Medical School, appeared with a personal request that the Board recognize their graduates for indorsement, since the date they had been placed on the "A" list of accredited medical schools by the American Medical Association.

By Dr. Marshall, seconded by Dr. McLaughlin:

RESOLVED, That graduates of Meharry Medical College be declared eligible for indorsement, provided they fulfill the requirements of the Michigan Medical Practice Act, and have graduated subsequent to January 1st, 1923.

Yeas: 9. Nays: 0. Motion carried.

Re: Traveling expenses of Board members

By Dr. McIntyre, seconded by Dr. Brook:

RESOLVED, That a committee be appointed to interview the Administrative Board relative to the expense accounts of the Board members.

Yeas: 7. Nays: 0. Motion carried.

The President appointed Dr. McIntyre and the Secretary as a committee of two to interview the Administrative Board in this connection.

Re: New form of license, or lithographed certificate or registration

By Dr. Brook, seconded by Dr. Tew:

RESOLVED, That a new form of license, or certificate or registration, be adopted by this Board, and that the Secretary be instructed to prepare the same, by and with the advice of the Attorney General; the certificate for framing purposes to be smaller in size, and to contain only the names of the President and Secretary of the Board.

Yeas: 9. Nays: 0. Motion carried.

Re: Complaint from Dr. Van Leuven, Petoskey, Michigan.

By Dr. McLaughlin, seconded by Dr. Brook:

RESOLVED, That the complaint of Dr. Van Leuven, relative to summer-practitioners, together with the opinion of the Legal Department of the American Medical Association, be turned over to the Secretary for a reply.

Yeas: 9. Nays: 0. Motion carried.

Re: Listing of Accredited Medical Schools

By Dr. Brook, seconded by Dr. Kelly:

That the list of accredited medical schools be continued, until the next meeting of the Board, (with the addition of Meharry Medical School since 1923).

Yeas: 9. Nays: 0. Motion carried.

Dr. F. C. Warnshuis appeared personally, and after an open discussion by the members, the following resolution was offered:

By Dr. Kelly, seconded by Dr. McIntyre:

RESOLVED, That Dr. F. C. Warnshuis be elected as Secretary of the Board of Registration in Medicine, for the ensuing two years, October, 1929, to October, 1931.

Yeas: 9. Nays: 0. Motion carried.
The President declared Dr. F. C. Warnshuis unanimously elected as Secretary.

By Dr. Nyland, seconded by Dr. Lemire:
RESOLVED, That the expenses of the Board members incurred during this meeting be approved.

Yeas: 9. Nays: 0. Motion carried.
Upon motion the meeting adjourned.
George L. LeFevre, M. D.,
President.
F. C. Warnshuis, M. D.,
Secretary.

Dated at Detroit, Michigan.
October 12th, 1929.

SECTION OFFICERS

The following section officers were elected at the Jackson Annual Meeting:

- GENERAL MEDICINE
- | | |
|------------------------------------|--------------|
| William Northrup.....Chairman 1930 | Grand Rapids |
| Milton R. Shaw.....Secretary 1930 | Lansing |
- SURGERY
- | | |
|------------------------------------|---------|
| Walter L. Finton.....Chairman 1930 | Jackson |
| G. C. Penberthy.....Secretary 1930 | Detroit |
- GYNECOLOGY AND OBSTETRICS
- | | |
|------------------------------------|--|
| Chairman | |
| Harry M. Nelson.....Secretary 1930 | |
- OPHTHALMOLOGY AND OTO-LARYNGOLOGY
- | | |
|----------------------------------|--------------|
| J. M. Robb.....Chairman 1930 | Detroit |
| Carl F. Snapp.....Secretary 1930 | Grand Rapids |
- PEDIATRICS
- | | |
|---------------------------------|-----------|
| M. Boyd Kay.....Chairman 1930 | Detroit |
| John Parsons.....Secretary 1930 | Ann Arbor |

CALHOUN COUNTY

The September meeting of the Calhoun County Medical Society was held at the Battle Creek Country Club, Tuesday evening, September 3, 1929. The Kalamazoo Academy of Medicine was invited to join us in the third annual golf contest, twenty-one contestants participating in this part of the program.

At seven P. M. seventy-five fellows and ladies set down to dinner, which seemed to be enjoyed by all. Immediately following the dinner, after the adjournment to the ball-room, the meeting was called to order by Dr. Wilfrid Haughey, vice-president, who acted in the place of the president, who was absent. The minutes of the June meeting, as printed in the Bulletin, Vol. XII., No. 6, were adopted as printed. Under the head of new business, it was moved by Dr. Sleight and seconded by Dr. Gorsline, that in view of the fact that this Bulletin has been published the last year at a small profit, that the secretary be allowed any amount over and above the expense of publication of the Bulletin as an honorarium. Carried.

Dr. Gorsline moved that Dr. W. L. Godfrey, whose years of practice had passed the fifty year mark, be recommended to the State Society for honorary membership. Carried. It was also moved by Dr. Sleight that Drs. H. A. Shurtleff, of Marshall, and E. L. Palmeter, of Albion, be also recommended to the State Society for honorary membership for having been in practice for fifty years, and this was carried.

The following bills were read and paid:

Secretary's office expense	\$8.50
Flagg's letter service	2.50

Under applications for membership, Dr. Stanley T. Lowe's name was read and referred to the board of censors.

The following names of members of other societies were read, and were voted into membership into this society.

Dr. Russell Mustard, from Washtenaw County.
Dr. A. L. Robinson, from Allegan County.
Dr. C. L. Ingalls, Homer, from Auburn, Indiana.

The chair next called upon Dr. Ward Collins, the president of the Academy of Medicine of Kalamazoo to take charge of the program, which was contributed by the visiting society.

After expressing his pleasure and delight in the cordial relations existing between these neighboring medical organizations, the first speaker, Dr. J. B. Jackson, was called upon and gave a short talk on the negative value of findings of the X-Ray, and stressed the fact that the X-Ray should always be viewed as the only one of the methods in use as a means of diagnosis. Routine X-Ray does not always disclose even fractures or bone lesions, and at times requires many films to be taken at unusuan angles in order to show us lesions. In kidney lesions, where stone is suspected, negative findings usually mean that no stone is present. Dr. L. E. Westcott read a paper covering some of the interesting points in diabetes melletis, and the control of insulin and diet in controlling this disease. This paper will doubtless be published in the State Medical Journal.

Dr. R. E. Balch gave a most interesting talk on some of the things which make up life and which, as serious minded doctors, we are all too prone to overlook. He expressed his love of the great out-of-doors, and of its moments of pleasure in making friendships while pursuing some hobby such as fishing, hiking, playing golf, etc. He waxed most eloquent in picturing the pleasant surprises that come to all unexpectedly "just around the bend." He was glad that we could not see too far into the future, as too often it would be depressing, and expressed the hope that the straight road would be short if we could see to the end. His talk, although it did not touch medical subjects, was most graciously received, indicating that the philosophical side of the doctor's life has a most interesting side when expressed so beautifully as was done by Dr. Balch.

Dr. D. C. Rockwell gave a very learned informal talk on the ear, and expressed the belief that the most serious ear troubles were preventable, but that 30 to 50 per cent of radical mastoid operations left behind complications of bothersome but more or less innocuous nature.

After expressing delight at having the Kalamazoo members present, the meeting adjourned.

Members present, 40.
Harry B. Knapp, Secretary.

BERRIEN COUNTY

The Berrien County Medical Society held their September meeting at the Four Flags Hotel in Niles on Wednesday evening the 11th.

A short business meeting was held at which the application of Dr. James U. Allen of Benton Harbor was voted on for membership and he was accepted into the society.

Announcement was made of the weekly broadcast of the Berrien County Society held each Monday at 12:00 noon over Station WEMC broadcasting on a wave length of 502 meters. This society is co-operating with the A. M. A. in disseminating information over the radio for a better understanding with the lay and medical fraternity, members of the society volunteering each week to read a paper. The Berrien County Society invite you to listen in.

The society was addressed by Dr. B. A. Shepard of Kalamazoo on tuberculosis and a general discussion followed his talk.

Announcement was made of the post-graduate conference to be held in Benton Harbor on the 16th of October at the Hotel Vincent. The session will start in the afternoon at 1:30 and continue into the evening with time out for dinner at 6:30 p. m. An excellent program has been arranged with speakers from Ann Arbor and Chicago.

We wish to correct the omission of the name of Dr. Carter as the speaker at the August meeting when the society voted on adopting the County Health Unit. Dr. Carter was sent to

us through the courtesy of the Michigan State Board of Health and answered the many questions of the members concerning the working plans of the health unit as well as giving a talk on the purpose of the health unit for counties.

W. C. Ellet, Secretary.

GRAND TRAVERSE-LEELANAU CO.

That the Post-Graduate Conference which was held at the J. D. Munson Hospital on October 11 was the best clinic ever held in the ninth district, was the opinion of the 48 physicians who came to Traverse City to attend it.

Members of the Grand Traverse-Leelanau County Medical Society succeeded in supplying a number of cases that applied to the various subjects under discussion, consequently making this conference very practical and more interesting to the audience.

Dr. G. F. Inch and the state hospital staff were hosts for a very excellent dinner which was thoroughly enjoyed.

E. F. Sladek, Secretary,

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

MEDICAL STATE BOARD QUESTIONS AND ANSWERS—R. Max Goepp, M. D., Professor of Clinical Medicine in the Graduate School of Medicine, University of Pennsylvania. Sixth edition, thoroughly revised. Octavo volume of 754 pages. Cloth, \$6.00 net. W. B. Saunders Company, Philadelphia and London, 1929.

The present volume is based on a selection of questions asked during the last four years. The book will find its greatest use among those who are looking forward to state board examinations. The questions are arranged and classified according to subject and are answered as clearly and concisely as possible. The work might also be of value to those who care to review the different subjects of a medical course both academic and clinical which are presented in a catechism or question and answer fashion.

AN INTRODUCTION TO THE STUDY OF PHYSIC (now for the first time published)—William Heberden (1710-1801). A prefatory essay by Leroy Crummer, with a reprint of Heberden's "Some Account of a Disorder of the Breast." Portrait, 6 illustrations, 159 pages. Paul B. Hoeber, Inc., 1929, New York.

In rummaging through the shops of London second-hand book dealers, Dr. Crummer chanced upon a hitherto unknown manuscript by William Heberden, London physician of the eighteenth century. Being able to confirm the authenticity of the script, he presents the complete text in this little book. A prefatory historical essay deals with the relation of Heberden to modern medicine.

Heberden, known principally for his classic description of angina pectoris, wrote "An Introduction to the Study of Physic" as a guide for his sons. Essentially it represents a suggested curriculum of reading and study for a medical student of a century and a half ago.

The work should become a valuable source book for the student of medical history. The original description of angina pectoris is given as an appendix.

MATERIA MEDICA AND THERAPEUTICS INCLUDING PHARMACY AND PHARMACOLOGY—Reynold Webb Wilcox, M. A., M. D., LL.D Professor of Medicine (retired) at the New York Post-Graduate Medical School. Twelfth Edition. Revised in accordance with the United States Pharmacopeia X and the National Formulary V with an index of Symptoms and Diseases. P. Blackiston's Son and Company, Philadelphia, Pa.

The title describes briefly the nature and scope of this work. A commendable feature is the successful effort in reducing the size to less than 700 pages, which has been accomplished by clear and concise statement of the essentials of the subjects. The book is divided into two parts, the first dealing with materia medica and pharmacy; the second with pharmacology and therapeutics. The second part deals with the indications for drugs in a clear, brief and somewhat dogmatic way. The work has the authority of a long and ripe experience.

CLINICAL ASPECTS OF VENOUS PRESSURE—J. A. E. Eyster, B. Sc., M. D., Professor of Physiology, University of Wisconsin. Price \$2.50. The Macmillan Company, New York.

This is one of the Macmillan medical monographs—a handy sized volume. It is the purpose of this volume to call attention to the importance of venous pressure. The author claims that venous pressure is the most direct indication that can be obtained clinically of the extent to which the heart is moving its volume of blood from the veins to the arterial side of the circulatory system. An extensive bibliography gives reference to the latest literature.

NEW ANESTHETIC REMOVES FEAR

A new anesthetic which puts patients to sleep so pleasantly and easily that they ask for more, has been reported by Dr. J. S. Lundy of the Mayo Clinic and Dr. R. M. Isenberger, professor of pharmacology of the University of Kansas. Fewer unpleasant after-effects and far less danger than many of the local anesthetics are claimed for this new aid to surgery, which has the impressive name of iso-amylethyl barbituric acid.

The work grew out of the old problem of how to offset the bad effects of some local anesthetics. Many investigators have sought means of avoiding the occasional cases of poisoning by cocaine. Accordingly, procaine, a synthetic product, was developed as a substitute for cocaine. However, bad reactions very occasionally follow even the use of procaine. Drs. Isenberger and Lundy, following along the line of some previous workers, found that certain substitution products of barbituric acid gave protection against convulsions from procaine. They reported their work with iso-amylethyl barbituric acid about a year ago.

In the course of a year's further work, Dr. Lundy has used iso-amylethyl barbituric acid, experimentally, and for the benefit of patients, over a thousand times. He has given it by mouth before administering local anesthesia and the apprehension from which some patients suffer before an operation has been lessened in this way. Moreover, convulsions, that occasionally come on from the use of procaine, have not appeared in any cases in which iso-amylethyl barbituric acid has been used.

Also, following the work of Zerfas, Lundy has used this product, by injection into a vein, to produce all or part of the general anesthesia in 273 major operations. Surgeons who have employed it in this way have found that patients wish to have it again if, for any reason, they need to have another operation. It quiets patients before operation and adds to their comfort after operation by producing a semi-conscious state for some hours after they have returned to bed. Nausea and vomiting are greatly lessened or entirely eliminated.

More work must be done on this subject before the product will, or should be used as commonly as morphine, ether and nitrous oxide now are used in general anesthesia. For some time, as with any new procedure in medicine, cases in which the substance is to be used must continue to be carefully selected to eliminate risk. However, with the interest that has been aroused by this work, by the use of carbon dioxide at the end of inhalation anesthesia as advocated by Dr. Yandell Henderson of Yale and by the report on the use of cyclo-propane that was given recently by Dr. G. H. W. Lucas of Philadelphia and Dr. V. E. Henderson of Toronto at the Thirteenth International Physiological Congress, patients who must undergo operations may, in the near future, be freed from the dread that some of them have of being put to sleep.—Science Service.

MEDICINE WINS ANOTHER TRENCH; RAYNAUD'S DISEASE OVERCOME

Medicine appears to have won another trench in its war against disease with the achievement of the surgical control of Raynaud's disease, recently reported by Dr. A. W. Adson and Dr. G. E. Brown of the Mayo Clinic. Raynaud's disease is painful, disabling and distressing to the patient,

often ending in amputation of feet or hands. It has been compared to frostbite.

Everyone knows what frostbite is; that the supply of blood to a frostbitten area is interrupted; that if the injury is severe enough the frostbitten tissue is not nourished, dies and becomes gangrenous. Raynaud's disease is not frostbite. It is much more severe and it is not so definitely related to cold. However, the condition it produces looks and feels to the patient who has it something as frostbite looks and feels. Until recently, treatment for Raynaud's disease has been unsatisfactory. "The complete surgical control of Raynaud's disease would seem to be accomplished," Dr. Adson and Dr. Brown have now announced. They say "seem to be" and they use the word "control" rather than "cure". Genuine medical investigators do not claim too much too quickly. However, building on the foundations laid by other investigators, these two physicians in their attack on Raynaud's disease have directed their attention to the autonomic or sympathetic nervous system. This is the nervous system which works without any thought on our part. It helps to control our digestion, our heart beat and the tension of the walls of our blood vessels. These scientists found ways of removing small portions of this nervous system that lie in the back, behind the abdominal organs and in the upper part of the chest. When the right portions are removed, the tightness, or spasticity, of the affected blood vessels is relieved. This relief seems to be permanent, which gives rise to the hope that scientific medicine and surgery have conquered Raynaud's disease.—Science Service.

GERMLESS COMPOUND PRODUCES CHANGES LIKE TUBERCULOSIS

The characteristic tubercles or clumps of changed cells caused by the germ of tuberculosis can be produced by the injection of a chemical compound containing no germs at all, Dr. Florence R. Sabin of the Rockefeller Institute for Medical Research, New York City, reported to the National Academy of Sciences, Washington, D. C. Dr. Sabin's achievement is revolutionary. By it the most characteristic change produced in the body by a germ-borne disease has been obtained without the germ entering the body. This is the first time this has been done for any disease and introduces a new technique in the study of disease.

Dr. Sabin's discovery is one of the latest and startling results of the campaign for the investigation of the causes of tuberculosis in which about a hundred bacteriologists, chemists, physicians and pharmacists in all parts of the country are now engaged. This plan for co-operative research was organized by a committee of the National Tuberculosis Association, of which Dr. William C. White of the U. S. Hygienic Laboratory is chairman.

Hundreds of pounds of microbes are being grown in flasks containing the necessary nutrients and are turned over to the chemists of Yale University and other laboratories for analysis. The various fractions into which the material is separated are then tested on normal animals to discover the physiological effects of the different constituents. By this novel method of attack it is hoped to discover what the microbes are made of and what stuff it is that the creatures excrete which causes sound flesh and blood to degenerate into a cheesy mass of tubercles.

When the secret of the pestilential activity of

these parasites of the cell is found out, the doctors will be in a position to devise methods of counteracting it, for they will no longer have to work in the dark as they do today.

The compound used by Dr. Sabin is one of the fractions extracted from the tuberculosis bacilli by Prof. Treat B. Johnson and Dr. R. J. Anderson of Yale. It consists of an oil containing phosphorus, and is a compound hitherto unknown to chemistry, although similar in composition to the fats in our foods. After twelve doses of this compound, each dose containing as much of the substance as is contained in a gram of the dried "bugs", the tissue shows lesions closely resembling those of the disease. If the injections are not continued the lesions become gradually absorbed and almost disappear in a few months.

Other fractions from the chemical analysis of the cultivated bacilli consist of fats and waxes that have a similar effect in stimulating and disintegrating the cells of living tissues. This action of this substance is similar to that of the unknown cause of cancer, since this likewise excites the cells to abnormal multiplication and later results in their destruction. The tubercle bacillus invades the living cells and there lives and multiplies. This causes the cells to enlarge to an abnormal size and shape and these clumping together form the nodules known as "tubercles." This disastrous effect is perhaps due to some substance such as these that are now being isolated, excreted by the living microbe or coming from the decomposition of their dead bodies.—Science Service.

GREATEST PSYCHIATRISTS TO GIVE SALMON MEMORIAL LECTURES

A search for the scientist, famous or obscure, who has made the greatest original contribution of the year to the cause of preventing or treating mental disease is to be conducted annually. When the scientist is selected each year, either in this country or abroad, his work will be recognized by a new award, to be known as the Thomas William Salmon Memorial. He will be requested to give lectures in various cities of the United States.

This is the project designed to honor the memory of one of the outstanding American psychiatrists, Dr. Thomas W. Salmon, who died in 1927. Dr. Salmon was professor of psychiatry at Columbia University and had been the first medical director of the National Committee for Mental Hygiene. He took a leading part in establishing a psychiatric service for immigrants at Ellis Island, which resulted in greatly lessening the number of mental charges admitted to this country. During the World War, he was a colonel in the American Expeditionary Force, acting as senior consultant in mental and nervous maladies of the fighting men. When he returned to the United States he endeavored to obtain for ex-service men model hospitals that would set a standard of excellence for the country. Dr. Salmon's friendly and sympathetic character as well as his notable accomplishments in the field of psychiatry so impressed his associates that 150 neurologists and psychiatrists launched the plan for a suitable memorial. Hon. George W. Wickersham is honorary chairman of the memorial. Honorary vice chairmen are Gen. John J. Pershing, Dr. Nicholas Murray Butler, Rev. Harry Emerson Fosdick, Mrs. Helen Hartley

Jenkins, and Dr. John H. Finley. The initial \$100,000 for the establishment of the memorial is being contributed by Dr. Salmon's friends, associates and laymen actively interested in the fields of nervous and mental diseases.

The lectures given in the United States each year are to be published and distributed, so that the knowledge on mental disease problems contained in them may be disseminated as widely as possible.—Science Service.

SMALLPOX NOT YET EPIDEMIC IN ENGLAND

Smallpox introduced into England by the passengers and crew of the liner *Tuscania* has not yet reached the proportions of an epidemic. This is the official opinion cabled by the U. S. Consul General at London to the Public Health Service, Washington, D. C. So far thirty-five cases have developed from contact with the passengers and crew of the liner, on which the disease was discovered before arrival from India at European ports. Smallpox is more or less prevalent throughout England. Vaccination is not compulsory, which increases the danger of a widespread epidemic. However, medical opinion in England is that the smallpox which is more or less continuously present is of a mild type and that compulsory vaccination is not necessary. The cases from the *Tuscania* may be of a more virulent type, however.

Quarantine officers of the U. S. Public Health Service are being especially vigilant in the search for cases of smallpox among travellers arriving at American ports from England, so that the disease will not be introduced into this country. English health officials are very efficient and will doubtless be able to check the spread of the disease without any epidemic resulting from the *Tuscania* cases. At the same time, public health officials advise Americans planning trips abroad this spring and summer to be vaccinated or revaccinated, if they have already had it done.

Vaccination should be done at least every seven years, in order to insure protection against this horrible and deadly disease. If the vaccination is properly done it will either "take" or produce an immune reaction. In the first case swelling, inflammation and possibly some pain will occur at the site of vaccination and the patient will thereafter be protected against the disease for a number of years. If a person is already immune, the vaccination will not "take" but there will be a slight reddening at the site of vaccination, showing that the person has in his blood the necessary antibodies to protect him against the disease.—Science Service.

FIND NEW ANIMALS THAT MAY TRANSMIT TULAREMIA

Tularemia, disease of rabbits, rodents and men, may also affect cats, muskrats, pigeons, ring-necked pheasants, grouse and quail, it appears from studies reported to the American Public Health Association by Dr. R. G. Green and E. M. Wade of the University of Minnesota and the State Department of Health. This new disease which has caused much concern in public health circles, is acquired by men who handle infected animals. The fact that many more kinds of animals may have the disease greatly increases the danger to human beings by increasing the possible sources of infection.—Science Service.

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PRACTICAL DIETETICS IN THE LIGHT OF MODERN SCIENTIFIC RESEARCH*

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BATTLE CREEK

Until a comparatively recent date the prescribing of food from both a prophylactic and a therapeutic standpoint has been largely empirical. However, during recent years the excellent work done in our research laboratories along the lines of physiology and physiological chemistry as related to nutrition has given us solid foundations on which to base a real science of dietetics which is capable of meeting the requirements of rational therapeutics.

Fortunately this information has been quite generally spread through the medium of medical and other scientific journals as well as by the better class of magazines, and has no doubt been of great benefit to mankind in general.

Physical fitness of its citizens is the most important asset of any nation and when we consider carefully the causes of physical unfitness, which is altogether too prevalent, we are confronted with the fact that faulty nutrition plays a major role.

If we study the factors which are concerned in the maintenance of health and longevity of man, we will find that nutri-

tion is the most important of all, for it concerns every individual and is essential to his daily existence.

It is estimated that fully fifty per cent of our population are physically imperfect and that all of the time over three million people in the United States are seriously ill and that there are over one and one-quarter million deaths annually, the majority of which are premature and could be prevented.

In the past quarter of a century there has been a very gratifying gain in the younger age groups but unfortunately this has been offset to a considerable degree by an increase in the mortality rate in the later decades of life due to the increase in

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the so-called degenerative diseases which are largely the result of unhygienic habits.

McCollum, who has given a great deal of study to the subject of nutrition both in health and disease, in considering the problem of physical deterioration makes the following comments: "If we examine the writings of those of today who are most active in studying the health problems of children and in arousing the nation to activity on their behalf, one finds various causes assigned for existing conditions. All would agree that we must attribute our physical deterioration to the subjection of the human race to new and unfavorable conditions, but differences of opinion exist as to the relative importance of these. The sedentary life within houses instead of out of doors, the wearing of clothing instead of exposing the skin to the weather with its changing conditions, the eating of soft food instead of raw, coarse food, the debilitating effect of certain climates, the preservation of weaklings through improved hygienic care, the artificial feeding of infants instead of nursing, the burden of responsibilities of civilized life, both mental and moral, and the failure to care for the hygiene of the mouth are among the causes most prominent. Doubtless each of these plays its part in contributing to place civilized man in many parts of the world in his present unenviable position with respect to health. It can now, however, be asserted with assurance that the chief factor responsible for human deterioration in recent times is not included in the above list. The chief factor lies in the unwise choice of food."

If the chief factor responsible for the physical deterioration of the human race lies in the unwise choice of food, the tremendous importance of proper nutrition is at once apparent and instead of holding the mediocre position to which it has been relegated so long, it is entitled to a premier place in modern therapeutics.

The science of nutrition has become so firmly established by recent scientific research that dietotherapy is of primary importance in the prevention and relief of the majority of disorders from which humanity suffers.

For many years the farmer has made a practical application of the scientific knowledge relating to nutrition in the raising of his stock; he knows how many pounds of meat can be produced from the grain he feeds, and he rations his dairy cows with such scientific accuracy that he can obtain a maximum quantity of milk

and butter fat with a minimum amount of waste. He applies every advance step in nutrition in the rearing of his animals and is gratified at the splendid results obtained, but he too frequently fails to recognize that application of the same principles now available with reference to human nutrition would, if applied to himself and his children, give him even more gratifying results.

The failure to recognize and apply these principles is the chief reason why more than fifty per cent of our school children are undernourished. The principles underlying the selection of an adequate dietary both in health and disease, are comparatively simple and can be readily understood and applied. When it is recognized that a patient is suffering from a nutritional disorder care should be exercised to determine whether or not it is of a metabolic or deficiency character, or both, and a diet prescribed accordingly. The diet should be of such a nature as to correct all of the patient's dietetic errors, and no diet should be prescribed that is not complete and well balanced for the case in question. The diet should be biologic in every respect, that is, it should satisfy the physiologic requirements of the individual. We must remember that the positive phase of dietotherapy has arrived and that the patient of today will not be satisfied with a lot of don'ts regarding what he should eat and drink. If satisfactory results are to be obtained he must be given positive and explicit instructions as to what he should eat, when he should eat, also the quantity and quality of food to be used.

Usually a normal person chooses the foods best suited to his requirements, and as a result seems satisfied. However, a careful study of the science of nutrition may reveal that a continuance of this diet over a long period of time may be the means of laying the foundation for one or more of the degenerative diseases from which so many people suffer during and after middle life. People generally need instruction in the science of nutrition which should include information relative to fuel values, the fundamental food elements including the essential minerals and accessory foods such as the vitamins; also as to the kind of foods best suited to their needs.

The unit of measure of the fuel value of food is the calorie, that is the amount of heat required to raise one liter of water one degree centigrade. The

fuel-producing foods are the proteins, fats and carbohydrates. One gram of carbohydrate has a fuel value of four calories, one gram of protein a similar amount, and one gram of fat a fuel value of nine calories. There are several factors which must be considered in prescribing the proper number of calories in a given case, chief of which are age and degree of activity.

In a state of complete rest approximately 1,000 to 1,400 calories are required daily; for one who can be out of bed several hours daily, 1,400 to 1,600 calories. In persons doing hard manual labor, 3,400 to 4,000 calories are required. Children under one year of age require 600 to 1,000 calories; from one to two years of age, 1,200 to 1,400 calories; from two to five years of age 1,400 to 1,600 calories; from five to ten years of age, 1,600 to 2,000 calories; over ten years of age, 2,000 to 2,600 calories.

The protein requirement of the average individual under normal conditions, is one and one-half calories per pound of body weight. Protein is being constantly used up during physical activity and must be replaced by an adequate amount of protein-bearing foods. As a rule, too much protein is consumed; on the other hand, there are cases in which too little is used. A deficiency is likely to cause lack of endurance, anemia and circulatory asthenia. In many instances too much protein is eaten; this is particularly true in persons fond of meats, eggs and fish. In such cases the excess of protein is converted into sugar and fats and is excreted by the kidneys; the liver is also unnecessarily burdened by the excess work thus thrown upon it. The blood is also charged with an excessive amount of urea and uric acid. The kidneys may also be injured by the excretion of these end products.

CARBOHYDRATES AND FATS

The fats, sugars and starches are the fuel foods; they furnish the fuel to maintain heat and the energy utilized in muscular, glandular, and other forms of vital activity. Fats have also been found to be an essential constituent of protoplasm and form a part of the living cells of the body. Fats differ from carbohydrates in their utilization as fuels, in that the sugars and starches are rapidly oxidized and are sometimes called quick-burning fuels; fats instead of being quickly burned are stored for future use and are comparatively slow burning. Fats contain proportionately less oxygen than carbohy-

drates and require a much larger amount when consumed, and as result produce a proportionately larger amount of energy when burned. An ounce of fat furnishes more than twice as many calories as a corresponding amount of carbohydrate.

The average normal individual requires sufficient food to furnish him a fuel value of about 2,600 calories daily, the proteins furnishing about 10 per cent, the fats 30 per cent and the carbohydrates 60 per cent.

To illustrate some of the fundamental principles involved in dietotherapy, we will call your attention to its application in a few of the disorders so commonly met with. The most common disorder with which the physician is called upon to deal is intestinal stasis, and is one which can in the majority of cases be avoided, and relieved by a properly selected dietary. In cases where the stasis has existed for a considerable period of time there is likely to be a coexisting colitis which requires additional therapeutic measures for its relief.

The normal diet should contain a sufficient amount of bulky residue-containing foods to insure sufficient peristalsis to produce normal bowel evacuations. Concentrated foods such as many of the especially prepared breakfast foods, white bread, meats, eggs, butter, fats, etc., which leave very little residue are no doubt in a large measure responsible for the development of intestinal stasis.

Unfortunately the temporary relief obtained from the use of medicinal laxatives, mineral waters, etc., are fruitful sources in encouraging the further development of the very condition for which the patient sought relief, and no doubt responsible for many cases of colitis. The principal residue-containing foods are fruits and vegetables. A liberal allowance of these with whole wheat bread will usually be sufficient to produce regular and satisfactory bowel movements; if not, the addition of a few teaspoonfuls of bran or psyllium seed will usually bring about satisfactory results.

In the more stubborn cases other than dietetic measures will need to be adopted; in such, the distal colon is usually spastic which hinders the bowel contents from reaching the rectum where the normal reflex for initiating a bowel movement is located. As a result the cecum becomes dilated and atonic, rendering the ileocecal valve incompetent, thus allowing the liquid contents of the colon to be forced into the

ileum during reverse peristalsis. A spastic distal colon, dilated cecum, incompetent valve, the lower small intestine filled for several feet with liquid colonic contents, are conditions favoring the absorption of the toxic products resulting from the putrefactive process which is always present under such conditions. Many of these cases complain of headache, vertigo, lassitude, and present a coated tongue and foul breath; prompt relief is usually obtained by proper evacuation of the bowels.

The relief of intestinal stasis is a problem for the dietotherapist, and in his management of such cases several important points should be given consideration. In the first place, the putrefactive process which is present should be relieved as promptly as possible for it is both a cause and an effect of the existing stasis.

If we examine the stools of breast-fed infants we will find that they are always acid in reaction, whereas the stools of the artificially fed are alkaline or neutral. It has been demonstrated that the lactose found in mother's milk is the determining factor in producing the acid reaction, and that the high protein content of cow's milk favors the growth of the putrefactive type of bacteria. The addition of lactose to cow's milk transforms the proteolytic flora of the artificially fed infant to one approaching that of the naturally fed.

As a rule an alkaline reaction of the contents of the colon encourages stasis while an acid reaction encourages peristalsis. From these facts it can be readily seen that care should be taken to see that an excess of protein should not be prescribed and that it would be greatly to the patient's advantage to be given liberal allowance of milk sugar with his diet. Starchy foods, particularly potatoes, bread, beans, and fruits, assist in changing the flora from the proteolytic to the aciduric type, while on the other hand animal proteins produce a markedly proteolytic or putrefactive type.

The diet for the relief of intestinal stasis is quite simple. It should be sufficient in amount, and contain an abundance of bulky foods which is provided in a diet containing a large amount of vegetable foods, such as lettuce, spinach, cabbage, cauliflower, carrots, asparagus, beets, tomatoes, onions and legumes.

A liberal amount of fruit should be taken, such as apples, oranges, pears, grapes, grape-fruit, etc. Dried fruits such as figs, raisins and prunes are also valuable, and fat in the form of butter and cream.

As previously mentioned, animal foods such as meats, fish and eggs encourage putrefaction because of the fact that they are high in protein content and also contain large numbers of proteolytic bacteria. While it is true that meat furnishes complete protein, the same is true of milk and nuts. A quart of milk daily will supply a sufficient amount of complete protein so that meat and eggs can be left out of the diet entirely without in any way interfering with the patient's nutrition and at the same time facilitating the changing of the intestinal flora from the proteolytic to the aciduric type.

Another disorder which is quite prevalent and frequently not recognized is acidosis, of which there are two types. All foods when taken into the body are digested, absorbed and burned, and like the burning of fuel in a furnace, an ash is produced.

Under normal conditions the starches and fats and the larger part of the proteins are burned to carbonic acid, which is eliminated by the respiratory process. However, if respiration is interfered with an acidosis may occur from the retention of carbonic acid, a condition sometimes found in pneumonia and cardiac diseases where the pulmonary circulation is interfered with. In addition to the carbonic acid the oxidation of all foods produces an ash which is not eliminated by the lungs but largely by the kidneys, and the urine may be either acid, alkaline or neutral.

If the diet is of such a nature that the ash is dominantly acid and is not properly eliminated by the kidneys, the alkalinity of the blood will be gradually reduced, a condition which sooner or later produces the acid ash type of acidosis. This form of acidosis can be ascertained by determining the reaction of the urine; if highly acid we may conclude that there had either been an excess of acid ash food eaten or too little of the alkaline ash type.

Patients suffering from this type of acidosis often complain of lack of energy and ability to concentrate, anorexia, nausea, vomiting, headaches, insomnia, myalgia, sour stomach, burning urine, irritability, and sometimes a migraine type of headache which is relieved by the balancing of the diet by a sufficient amount of alkaline ash foods.

The following is a list showing two types of foods with their varying degrees of acid ash and alkaline ash qualities:

ACID-BASE BALANCE IN FOODS

Alkali Producing Foods	Acid Producing Foods
c.c.N.acid per 100 gms.	c.c.N.acid per 100 gms.
Molasses .....56.	Egg yolks .....25.
Raisins .....23.6	Oysters, fresh .....15.1
Beans, fresh lima.....14.	Shredded Wheat .....12.2
Almonds .....12.3	Oatmeal .....12.
Parsnips .....11.9	Sardines .....11.3
Dates .....11.	Eggs, whole .....11.
Beets, fresh .....10.9	Beef, porterhouse.....10.9
Carrots .....10.8	Chicken .....10.7
Figs .....10.	Salmon, canned .....10.7
Rutabagas .....8.5	Barley, pearl .....10.4
Cucumbers .....7.9	Pork, lean .....10.
Celery .....7.8	Veal, loin .....9.8
*Muskmelon .....7.5	Ham, smoked .....9.7
Lettuce .....7.4	Beef, ribs, lean.....9.6
*Potatoes .....7.	Mutton, leg .....9.6
Cocoanuts .....7.	Rice .....9.3
Pineapple, fresh.....6.8	Halibut, fresh .....9.3
Sweet potatoes .....6.7	Trout, salmon .....8.8
Plums .....6.2	Crackers, soda .....8.3
Cabbage .....6.	Walnuts .....7.8
*Bananas .....5.6	Bread, whole wheat 7.3
*Oranges .....5.6	Bread, white .....7.1
Tomatoes .....5.6	Perch .....6.3
Lemons .....5.5	Corn .....5.9
Beans, fresh string 5.4	Cheese, cheddar .....5.4
Peaches, fresh .....5.	Lentils .....5.1
Mushrooms .....4.	Bacon .....5.
Grape juice .....3.9	Egg white .....4.8
*Apples .....3.7	Peanuts .....3.9
Pears .....3.6	Corn, green .....1.8
Radishes .....2.9	Cranberries*
Milk, whole .....2.3	Prunes*
Onions .....1.5	
Peas, fresh .....1.3	

* These foods have been found experimentally by Blatherwick to be the most efficient in reducing the acidity of the body.

* The ash of these foods is alkaline in nature, but because of the unoxidizable acid contained by them, they increase the acidity of the body.

NEUTRAL FOODS

Butter	Cornstarch
Cream	Cane Sugar
Lard	Tapioca

In general, fruits such as oranges, lemons, grapefruit, apples, peaches, etc., prevent acidosis, while white bread, cereals, eggs, fowl, meats and fish encourage it.

The acid ash type of acidosis as a rule is readily remedied by balancing the acid ash type of foods with the alkaline ash type. The high urinary acidities produced by the consumption of cereals, white bread, crackers, meats, fish, fowl and eggs, can be overcome by the use of oranges, apples, melons, bananas, potatoes and milk.

Sansum has called attention to the influence of diet in cases of arterial hypertension. In studying these cases he found the urine highly acid, and that when the acidity was reduced by the adoption of a proper dietary the blood pressure was favorably modified in 90 per cent of the cases. Only terminal cases with marked sclerosis of the blood vessels failed to respond satisfactorily.

In a series of experiments to determine whether the blood vessel and kidney damage which is responsible for the high blood pressure could be produced in such animals by unbalanced diets, Sansum and his colleagues took for their controls 12 healthy young rabbits and gave them a balanced diet of grain and alfalfa hay; during a period of two years these animals with the exception of one which died from pneumonia, remained in excellent health. Their blood pressure remained normal and their urines were slightly acid. When killed their tissues were carefully examined microscopically but no evidence of the type of blood vessel or kidney disease, which is the cause of high blood pressure, was found.

A second group of healthy young animals was given a diet decidedly of the acid ash type, care being taken to furnish adequate vitamins. These animals did not grow well; some died during the two years of the experiment; every rabbit that lived longer than eight months developed high blood pressure and Bright's disease, with albumin in the urine. The remaining five were killed and their tissues as well as the tissues of those that died earlier in the experiment were examined microscopically. Depending upon the length of life, the blood vessels showed increasing degrees of the same type of kidney disease which is seen in patients dying from this type of the disease.

In a third group of 12 healthy young rabbits the diet consisted essentially of grains and meat. For this experiment liver was used, baked, ground, dried, and mixed with grain, the necessary vitamins being supplied. During the fourteen and one-half months of the experiment 11 rabbits died. Marked increases in blood pressure were noted, beginning at the end of the third month. These animals were very difficult to care for as many of them were sick the greater part of the time. Gross and microscopic findings were more marked than in the grain series.

Another series of experiments was performed to determine whether or not the over consumption of protein would produce blood vessel disease. To a group of twelve healthy young rabbits a high protein excessively alkaline diet was given. The animals developed serious Bright's disease and all died during the twenty months of the experiment, but the microscope did not reveal any evidence of blood vessel disease which is associated with high blood pressure. From this evidence it would seem that there is probably some relationship

between the kind of diet used and arterial hypertension and kidney disease, which are frequently associated with some myocardial disturbance. In view of these facts we should advise our patients to be especially careful to select a well balanced dietary containing plenty of fresh fruits and vegetables and to eat less bread and use more milk in the place of so much meat, fowl, eggs and fish. Those doing manual labor will find the legumes especially valuable because of their high alkaline ash and nutritive values.

THE ACETONE TYPE OF ACIDOSIS

This form of acidosis is not liable to occur if plenty of carbohydrates are eaten. It is due to the overconsumption of fat or the underconsumption of carbohydrates, and is the result of the incomplete combustion of fat. Fat is only completely oxidized in the body in the presence of burning sugar, hence in diabetes mellitus where the patient is unable to oxidize all of his sugar, his fats are not properly burned and as a result develops the acetone type of acidosis which is characterized by sluggishness, headache, nausea, vomiting, coma and death.

Our dietary systems at the present time rather encourage the acetone type of acidosis. We are consuming more and more fat and less carbohydrate, rich milk and cream, plenty of butter and cheese, fat meats, bacon, nuts, egg yolk, olive and vegetable oils, foods cooked in fats, rich gravies, creamed vegetables, etc. If we are to avoid this form of acidosis we must eat more carbohydrates and less fat. When present it should be treated by giving the patient more carbohydrates. If vomiting is present and persistent, sour drinks such as lemonade are helpful, pieces of orange, lemon or grapefruit with sugar will often be retained and combat the acidosis. Fruit juices are excellent in these conditions.

Following operations carbohydrates in the form of fruit juices should be given freely; if not retained, sugar should be introduced by enema or intravenously. Individuals attempting to reduce by cutting down on the fuel value of their food should reduce their calories by eliminating fat rather than carbohydrate. The proper carbohydrate fat ratio for an adult is about 2 to 1; if this ratio is maintained there will be little danger of the acetone type of acidosis developing.

MINERAL REQUIREMENTS

An adequate amount of minerals in our food is necessary in order to furnish a nor-

mal diet. The most important of these are iron, phosphorus, calcium, carbonates, sodium, sulphur and iodine. A deficiency in iron-containing foods reduces the hemoglobin content of the blood, resulting in an anemia. The chief iron-containing foods are the green leafy vegetables such as spinach, cabbage, cauliflower, etc. Of the fruits, raisins, grapes and apples are comparatively rich in iron. The phosphates, especially sodium and potassium, are helpful in reducing the acidity of the urine. These are present in fruits and vegetables. Calcium as calcium carbonate and calcium phosphate furnishes about 90 per cent of the mineral content of bones. These can both be obtained from cow's milk; they may also be obtained in abundance from vegetables. Sodium is an important mineral and is usually obtained from sodium chloride or common salt; of this, the body requires about 2 grams daily. Iodine, while required in very small amounts, is a very essential element for the normal functioning of the body; it is usually furnished in sufficient quantities in our drinking water; when deficient it is usually found in sufficient amounts in table salt. Sulphur is found in the hair and nails and is available in sufficient amounts in eggs, onions, cauliflower and cabbage.

According to Sansum, if the hemoglobin is normal and an adequate amount of fruits and vegetables are eaten so as to afford sufficient bulk and alkali requirements and the diet contains 1 quart of milk daily, the mineral requirements of the body will be satisfied except in cases where the drinking water is deficient in iodine.

DEFICIENCY DISEASES

For a great many years it has been recognized that certain diseases were definitely related to diet. Among these scurvy stands out prominently because it was so common among sailors who were restricted to certain foods for a considerable period of time. However, experience taught these men that by the use of vegetables and the juice of citrus fruits, the disease could be prevented as well as relieved.

Beriberi, a disease common in the far East, was also known to be the result of an inadequate diet, and was in some manner related to the use of rice. From studies of beriberi and especially the polyneuritis in pigeons produced by feeding polished rice, Funk concluded that the pathological conditions were due to the lack of some essential food substance which he attempted to isolate. He was successful in making an extract from rice

which when injected into pigeons with polyneuritis had remarkable curative properties. This substance was thought to be an amine, and Funk proposed the name vitamin (vital amine) for his product.

Since this time numerous investigators have made clear and demonstrated that several substances of a vitamin character exist, and the term Vitamin is now used for the group, and letters for special designation.

Five distinct vitamins have been carefully studied and are designated by the letters A, B, C, D, E; vitamins D and E are the most recently discovered and have not been sufficiently studied to fully determine their distribution.

McCarrison, who has carefully studied the deficiency diseases summarizes our present knowledge of vitamins A, B, and C, as follows:

"1. Vitamins are constant constituents of living tissues. Although present in very small amounts, maintenance of health is dependent on their action.

"2. Vitamins do not themselves contribute to the energy supply of the body, but facilitate utilization by it of proteins, fats, carbohydrates and salts of food.

"3. Proteins, fats, carbohydrates and salts cannot support life without vitamins, nor vitamins without these proximate principles; they are complementary to each other. Without vitamins the body starves.

"4. A distinct relationship exists between the amount of vitamin required and the balance of food in protein, fat, carbohydrate and salt, the efficacy of the vitamin depending on the composition of the food mixture.

"5. A distinct relation exists between the amount of vitamin required and the rate of metabolic process.

"6. Each vitamin plays a specific part in nutrition.

"7. It appears that vitamin A is associated with the metabolism of liquids and calcium, as well as with chemical reactions requisite for growth and maintenance.

"8. Vitamin B appears to be associated with the metabolism of carbohydrates and with the chemical reactions and functional perfection of all cells, particularly nerve cells.

"9. Vitamin C appears to be associated with the metabolism of calcium and with the chemical reactions of growing tissues.

"10. All vitamins are concerned in the maintenance of orderly balance between

destructive and constructive cellular processes.

"11. One vitamin cannot replace another although its function may be interfered with by the absence of another.

"12. The final result of their deficiency is the same whatever be the degree of deprivation. The greater the deprivation the more rapid is the onset of symptoms due to it; the lesser the deprivation the slower is the onset of the symptoms due to it.

"13. Each vitamin exercises a specific influence on the adrenal glands; the effect of their deprivation on these organs is one of the most outstanding features of deficiency diseases.

"14. Vitamins influence markedly the production of hormones and all external secretions.

"15. There is reason to believe that the capacity of any given cell for work is impaired in proportion to the degree of vitamin starvation.

"16. Vitamins aid the tissues in resisting infection.

"17. Vitamins, especially vitamin B, induce in the human and animal body the desire for food.

"18. Vitamins are one link in the chain of essential substances requisite for harmonious regulation of chemical processes of healthy cellular action. If the link be broken, harmony ceases or becomes discord, as it may cease or become discord if any other link is broken.

"19. The place of vitamins in human economy must be considered in connection with metabolism as a whole: in connection with their relation to other essential food requisites, with their relation to organs of digestion and assimilation, and with their relation to endocrine regulators of metabolic processes.

"Vitamins are the spark which ignites the fuel-mixture of a petrol-driven engine, liberating its energy; a spark is of no use without fuel, nor fuel without spark — nay, more, the efficacy of the spark is dependent in a great measure on the composition of the fuel mixture.

"What happens (when the body goes sick in consequence of deficient foods, usually ill balanced) is this:—in the absence of vitamins or in an inadequate supply, proteins, fats, carbohydrates and salts are not properly utilized; some are largely wasted, others yield products harmful to the organism. In these circumstances life may be sustained for a longer or shorter

period, during which the body utilizes its reserve stores of vitamins and sacrifices its less important tissue to this end. But there is a limit beyond which such stores cannot be drawn upon, and once reached the cells of higher function—secretory, endocrine and nerve cells—begin to lack vigor and depreciate in functional capacity, although the tissues may hold considerable stores of vitamin. The disintegration process is delayed or hastened, lessened in severity in one direction or increased in another, according as the food constituents are well or ill balanced and according to the character of lack of balance.

"The lack of vitamin disturbs the calcium metabolism; puts an end to regenerative processes; involves without respect the cells of higher function, the functional depression of many, death and failure of a few. The cardinal effect is depreciation of cellular function, and this depreciation is the foundation upon which disease is built.

"The conception of the function of vitamins holds out wide promise in the cure of disease due to or favored by their deficiency in food; for though they cannot restore to life cells already dead, they can restore to normal depressed functional capacity in the general mass of the body's cells. The conception that vitamins provide the cells of the body with power—one might almost say will—to work, has this great merit, that it furnishes a working hypothesis on which to frame treatment.

"The newer knowledge of nutrition is, I am convinced, the greatest advance in medical science since the days of Lister. When physicians, medical officers of health, and the lay public learn to apply

the principles which this newer knowledge has to impart, when they know what malnutrition means, when they look upon it as they now look upon sepsis and learn to avoid the one as much as they now avoid the other, then will this knowledge do for medicine what asepsis has done for surgery."

SUMMARY

1. Physical fitness is primarily dependent upon the scientific selection of our food.
2. The chief factor responsible for human deterioration in recent times lies in the unwise choice of food.
3. The diet should contain a sufficient amount of residue-containing foods so as to secure normal bowel evacuation.
4. Care should be exercised in selecting a sufficient amount of alkaline foods to keep the acidity of the urine within normal limits.
5. The diet should contain a proper carbohydrate, fat ratio to prevent the acetone type of acidosis, which is 2 to 1.
6. The diet should be properly balanced with reference to fuel values derived from proteins, fats and carbohydrates. About 2,600 calories daily meets the requirements of the average normal individual.
7. The diet should be derived from such foods as will furnish the required minerals in sufficient quantities to meet the needs of the individual.
8. The diet should also contain foods which will furnish vitamins in ample amounts.
9. The scientific application of the principles of this newer knowledge of nutrition is capable of doing as much for medicine as asepsis has done for surgery.

SAYS SWEETS MUST BE KEPT IN THEIR PLACE

Sweets must be kept in their proper place in the diet of children and that place is as a preservative and flavoring, Prof. Henry C. Sherman of Columbia University, chairman of the Committee on Nutritional Problems, reported at a recent meeting of the American Public Health Association.

"It is a sobering thought that sugar, as it now comes into commerce, is the most completely devoid of proteins, vitamins, and mineral elements of all the foods which we give our children. From the nutritional standpoint therefore it would seem that sugar should be of all foods the most cautiously used in feeding children lest it displace too much of the foods which can do what it cannot in supplying the proteins, vitamins, and mineral elements which the children need so urgently and so abundantly for their healthy growth and development. The argument that candied fruits, milk chocolate and ice cream are foods

that convey minerals and vitamins is true only to the extent that these foods contain milk, fruit or other foods which are good sources of minerals and vitamins. The sugar itself contributes nothing except the calories. While active children need calories, they also need minerals, proteins and vitamins to help them grow, and they should be fed largely on the foods which furnish these important substances along with the calories. In general the proper place of sugar in the food supplies and eating habits of children is not in such concentrated forms as candy, nor in the indiscriminate and excessive sweetening of all kinds of foods, but rather as a preservative and flavoring to facilitate the introduction into the child's dietary of larger amounts of the fruit and the milk, the importance of which to child health has been increasingly emphasized with each year's progress in our knowledge of nutrition."—Science Service.

PHYSIOTHERAPY

PAUL ROTH, M. D.*

BATTLE CREEK, MICHIGAN

The fundamental purpose of therapy whether it be medicinal, psychic or physical is to cure, that is, to restore to the normal the functions of the organism or of any of its component parts. The forces of life and health are creative and these alone can heal. Healing is the supreme attribute of Nature. Whatever may be the means employed for curative purposes, it is useful only in so far as it assists Nature in its inimitable and mysterious physiological or curative processes. Nature works according to immutable laws and physiotherapy endeavors to work in as close harmony as possible with Nature. Any agent which interferes in any way and more than very temporarily with the normal body processes is to some degree injurious and may in time do more harm than good. The action of any therapeutic agent should always be studied in the light of physiology. Were this done habitually we would soon recognize the fact that physical agents are as a rule more dependable in their action and safer to apply repeatedly, and that they should be, whenever applicable, the measures of first choice in the treatment of disease.

Life and health are, above all, dependent upon the many physical agents which are incessantly transmitting vital energy to all living organisms. The chief urge of Nature is the promotion of life and the safeguarding of health. This is the reason why by far the majority of diseases, ailments and injuries heal spontaneously, not only without the help of the doctor but often, fortunately, even in spite of his medication. This is spontaneous physiotherapy pure and simple.

Imagine what might result from the timely and intelligent application of measures which would at least give Nature a better chance to work. Not only would many more cures be effected and recovery would generally be hastened, but more of the conditions which seem to be hopeless would yield to suitable physiotherapeutic treatment used either alone or in conjunction with medicinal agents.

That miracles of healing are not a thing of the past is a fact of almost daily observation by the busy practitioner. It is as easy to explain modern miracles as the ones of old. We do not have to admit in any case that the laws of nature were ever suspended. It is interesting if not significant to note that in the majority of cases re-

corded physiotherapeutics were in evidence. Recall, for instance, the baths in the river Jordan, the air baths and the sun baths in the pool of Bethesda taken by the multitudes who, evidently naked, were patiently waiting day after day for the chance to be first in entering the troubled waters. Even the psychology of it all must have been of a tremendously healing influence. That is the "faith" so-called which then as now removes mountains, figuratively speaking.

The first record of successful resuscitation by means of artificial respiration, essentially a physiotherapeutic procedure, two thousand years ago has been more minutely described than could have been imagined by any of us until recently. The prophet Elisha proceeded in an ingenious manner. The record shows beyond question that he forcibly inflated by his own mouth the lungs of his patient. The CO₂ laden breath furnished both the needed mechanical and the chemical stimuli which restored respiration. That is not all, the prophet appreciated one thing which is today commonly overlooked under such circumstances, and that is the capital importance of heat as a biologic stimulant and he therefore saw to it that his subject was kept warm. The method he used at first sight seems as ridiculous as it is simple, but must now be admitted to be absolutely sensible. The contact of his body resting over the child not only furnished the needed warmth, but also a periodic abdominal compression and decompression admirably timed and synchronizing his own respiratory movements with the inflation and deflation of the lungs of his patient. In completeness and attention to important details the method is surely equal if not superior to the best of the modern improvised methods. It seems that this prophet must have learned of this interesting method from his predecessor Elija, who is credited with having used a similar though less minutely described procedure of resuscitation.

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I was informed that a colleague of mine (Dr. J. E. Cooper, chief of the Obstetrical Department of the Battle Creek Sanitarium) has, a number of times, resorted to this ingenious mouth to mouth method of lung inflation with splendid success in the resuscitation of the new born. He merely uses a few thicknesses of gauze to breathe through while inflating, and aspirating alternately the lungs of the child.

Some drugs unquestionably have certain distinct specific properties and advantages which cannot be duplicated by any known physiotherapeutic agent, but the subject of Medicinal Therapeutics will be ably discussed by another speaker. I only wish to remark that it should be the aim of the clinician, especially in chronic or protracted cases, to secure whenever possible relief through physical rather than through medicinal measures. In many institutions the use of drugs has been very much reduced with remarkable results by the substitution of physiotherapeutic measures, especially for the relief of pain, nervousness, agitation and insomnia.

Time will not permit to even present a list of the numerous physiotherapeutic procedures which have proven to be of value and which are being made available in all modern medical and surgical institutions and hospitals. Manufacturers, for pecuniary reasons of course, have been diligent in supplying the need and the profession is surely much indebted to their expert knowledge and contributions. They have created a demand which, unfortunately, has not always originated, as it should have, in medical and scientific circles.

I will not discuss here institutional and office equipment, that is relatively well taken care of. If in doubt as to the actual value of certain apparatus or procedure, a special and very able committee of the American Medical Association is at your disposal to give you information and help in keeping clear of the worthless. It is the practitioner with limited facilities who is most in need of assistance. He must first of all develop an intelligent faith in the forces of nature. He must be honest with himself and consider it an obligation to educate his patients to a life in closer contact with nature and its curative agents. This education is by far the most crying need in, as well as out of, the medical institutions. Every member of a medical staff should be a physiotherapist.

While it may be granted that in institutional work an elaborate equipment is desirable and the expense it entails justifi-

able, we must not ignore the fact that by far the great majority of the most valuable therapeutic effects which are commonly desired can be secured from a few simple procedures. The successful practitioner is the one who is thoroughly acquainted with the therapeutic properties and effects of the relatively few standard and well established procedures (or medicaments) and who has mastered the art of their application.

The progressive doctor is not the one who is ever ready to try anything merely because it is new, often ignoring its uses and correct method of application. It is just as easy to become qualified to administer physiotherapeutic procedures as to handle drugs in a commendable manner. Unfortunately, there is still at the present more time and effort devoted to the training of the medical students in the use of drugs than in the application of physical therapeutic measures. Good therapeutics, whether it be by means of medicinal agents or by physical measures, is dependent first on a thorough knowledge of physiology and next on a knowledge of pathology and correct diagnosis. The practitioner who thinks, and attempts whenever possible intelligently to apply the best remedy for the removal of any recognizable morbid factor, will never get into a pernicious rut. He will soon find out that although disease works in a multiplicity of ways it can best be combatted by means of a relatively few dependable therapeutic agents.

All therapeutic agents restore harmony in disturbed body functions fundamentally either by increasing or by depressing more or less specifically the activity of one or more body mechanisms. It is evident that the localization of effects is often highly desirable and to this physiotherapeutic measures are well adapted.

Another great advantage of physiotherapeutic agents over drug medication is that they are totally exempt from toxic effects. This is of tremendous importance, especially in protracted cases, and not infrequently also in acute conditions accompanied by any form of severe toxemia.

On the other hand, physiotherapeutic agents are not totally free from possible pernicious effects. They are powerful measures which when misapplied or administered in improper doses can readily become very detrimental and even destructive. It must also be admitted that the application of physiotherapeutic procedures demands a training and skill which is as yet sadly lacking among graduates in med-

icine and surgery. The result is that much of this form of therapeutics, if resorted to at all, is entrusted, with little or no medical supervision, to the nurse or to even less qualified persons. This state of affairs is fundamentally responsible for the thriving business which has been built up by the quack. How unfortunate it always is when undue professional conservatism allows the laity to call for improved therapeutic service before the doctor has awakened to the demands of scientific progress and before he is prepared to take the lead. The demands of the public may often be unwarranted or unwise, but are not infrequently justifiable.

Physiotherapy is unquestionably more ancient than drug therapy. For many centuries it has had in the medical profession most reputable advocates the long list of which is headed by the immortal Hyppocrates, the Father of Medicine. Nevertheless, physiotherapy has at times met with considerable opposition. For many years the layman felt but little confidence in a doctor who did not dispense some sort of medicament. Today the public is rapidly being educated to respect, above others the practitioners who prescribe physiotherapeutic measures.

At this time when the medical profession is called upon to suggest means of reducing the cost of medical care, we should recognize a golden opportunity to bring home the truth that: (1) The cost of illness can be enormously reduced by right living and the adoption of simple preventative measures. (2) Life and health are Nature's gift and its agents are dependable and in general the most economical in the treatment of disease. (3) Disregard of biologic laws is costly. The widespread use of physiotherapy should be the means of educating the public in right living and in the prevention as well as in the cure of disease. Furthermore, in this campaign against the high cost of medical care it is folly to ignore the fact that inexcusably often illness is brought about by years of illspent time and money. Why should the medical profession or the community be expected to provide relief without having the right to demand the co-operation of the public for the prevention of disease? Let the public join hand with the medical profession in solving this big problem which might be more wisely and appropriately called "the high cost of sickness" rather than the "cost of medical care."

Physiology and biology should be taught to every student in our schools and col-

leges. The curriculum in the ever increasing number of our vocational schools should include practical instructions in home nursing and the preparation and application of such simple physiotherapeutic measures as are generally called for in the case of illness in the home: compresses, fomentations, foot baths, simple rubbing, dry and moist, etc.

The study of the border line between health and disease should be emphasized in medical education. Much time in clinical demonstrations is devoted to the rare and spectacular cases. While hopeless conditions must ever receive due attention and stimulate research, the most productive field for medical progress will ever be prevention in the range of the common non-spectacular borderline cases. It is in this important battle ground especially that physiotherapy always excels and in which the abuse of drugs is as prevalent as uncalled for.

PHYSIOTHERAPEUTIC AGENTS AND SOME OF THEIR OUTSTANDING ADVANTAGES

Air: There is no substitute for fresh air either in health or in disease. Through the reflexes which it can induce instantly when applied cold, respiratory and general systemic exhilarating and tonic effects are secured. Used in conjunction with heliotherapy, most remarkable nutritional and healing properties are obtainable. The systematic and oft repeated short exposure of the entire skin to cold air and light is most valuable in training or re-educating the skin in its vital function as middleman between the body and its surroundings. This training is one of the most important factors for the prevention of "colds" because the defensive mechanism against "colds" is largely under the control of the skin.

Water: Hydrotherapy excels and has no second as a therapeutic agent in the management of fever, inflammation, pain and a host of conditions, either general or local, which call for measures to excite or depress vital functions. Water comes nearer to being a panacea for every ill than anything else can ever be.

Light: Strictly speaking this agent is essentially the primary source of energy, life and health. As physicians, to become true "sun worshippers" in the care of human ills is paying tribute to the Great Physician. In our armamentarium against disease "Let there be Light."

Electricity in its various forms is a marvelous therapeutic agent. Its effects are quite specific: The galvanic, for the stimu-

lation of nutritional processes in the tissues. The faradic and sinusoidal as a source of impulses for the excitation of muscular function. Diathermy and various forms of the high frequency current enable us to affect thermically even the remotest parts of the body.

Exercise: Sedentary habits are the fundamental cause of the general lowering of vital energy in a multitude of individuals. Torpidity of functions is evidenced by a subnormal basal metabolic rate and the well known symptoms which accompany it: General suboxidation, subnormal temperature, low blood pressure, weak pulse, torpidity of the skin, liver and kidneys, constipation, intestinal and general toxemia, etc. These conditions demand primarily physiotherapeutic treatment by exercise, work and play.

I must refrain from further arguments though much could be said also about friction, vibration, massage and many mechanical and manual applications. In this group of procedures various "cults and beliefs" should recognize a practical, effective and matchless method of "laying on of the hands to heal the sick" which is worthy

of the present scientific and enlightened age.

SUMMARY

Physiotherapy makes use of the same agents that are primarily indispensable for the promotion of life, consequently these agents work in greater harmony with nature and with greater safety than medicinal agents can do.

Physiotherapy should be the method of choice whenever possible and its use demands as much training as the intelligent use of medical agents. This training should receive more attention in the Medical College and in a very simple way should be introduced in our schools and colleges. The public also should be educated especially in the prevention of disease through greater respect and attention to nature's laws.

The most valuable physiotherapeutic agents: Air, light, water, work and play, etc. are Nature's gifts to man. In educating the public to partake freely of this fount of life we strike directly at the chief cause of the formidable cost of illness.

The chief physiotherapeutic agents and their advantages are briefly mentioned.

NEW INSTITUTE TO STUDY PROBLEMS OF THE EYE

A great step forward in the study and treatment in America of diseases of the eye is marked by the dedication of the Wilmer Institute of the Johns Hopkins University and Hospital in Baltimore. Before the establishment of this Institute, such opportunities in our country were far behind those of European countries. Individual men specializing in the subject were doing splendid work at various places, but no one center existed.

The new Institute was founded and built by contributions from former patients and friends of Dr. William Holland Wilmer, one of the country's leading eye specialists, who is the head of the Institute which bears his name. The location of the Institute is of especial advantage because the means for caring for patients and the general medical facilities of a great university hospital are available.

The usual equipment and construction of the Institute is the result of much thought and study on the part of Dr. Wilmer who spent two years in Europe visiting various ophthalmological cen-

ters before the Institute was built.

A special camera has been devised in the research department to record pictorially operations on the eye. This is of immense educational value. Only a very few persons can observe closely the details of a surgical operation with safety to the patient. This is particularly true of delicate operations on the eye. The new camera will give future surgeons an opportunity for observation of every detail, which is a vital part of their training.

Over 50,000 persons in the United States today have defects of vision so great that they cannot engage in pursuits requiring vision. Many thousands more are seriously hampered in health, happiness, and earning power by poor eyesight. For these people as individuals and for the communities in which they live, the Wilmer Institute has tremendous significance. Research now being carried on at it is concerned with glaucoma, cataract, the effects on the eye of aviation, and many other problems of vital importance to humanity.—Science Service.

THE NEW U. S. PHARMACOPOEIA

Physicians and pharmacists all over the country have been sent score sheets on which to record the popularity of various drugs and remedies which will be considered for admission to the new U. S. Pharmacopoeia, to be issued shortly. The U. S. Pharmacopoeia is the collection of formulas for drugs and remedies recognized as standard by doctors and pharmacists of the United States. It is official but has no connection with the Federal government, being published by authority of the United States Pharmacopoeial Convention, a body composed of delegates

from national or state associations of physicians and pharmacists, schools of medicine and pharmacy, and by certain government services. The convention, meeting once every ten years, selects a Committee of Revision to make desired changes in the Pharmacopoeia then in force and to issue a new one. It is to aid this Committee, to be selected by the Convention which will meet in Washington next May, that the present questionnaire has been sent out. The next U. S. Pharmacopoeia will be the eleventh.—Science Service.

PSYCHOTHERAPY

O. R. YODER, M. D.*

KALAMAZOO, MICHIGAN

This address is a discussion of the principles of psychotherapy which can be used by the general practitioner in general practice. In the temple of Esculapius, during the fifth century, scientific medicine had its origin. The temple physicians chose to practice their calling according to their own judgment, using such forms of treatment which they considered rational, without the dictation of the priests. They recognized the fact that the mind had some influence over the body, but they were content to leave this form of treatment to the clergy and ever since it has been used by faith healers and magicians to defraud the innocent.

Various attempts have been made to establish psychotherapy scientifically. Mesmer, in 1736, established Mesmerism. This was then followed by hypnotism, and both have been discarded. Christian Science, which is more of a religion than a method of healing, made a contribution, in that it removed the fear of disease from the individual. Then came Freud with his study of the unconscious, based largely on the sex instinct. He pays little attention to the equally important instincts, those of preservation and the herd instinct. So we all began to look for suppressed complexes and usually these are so nauseating that one feels like repressing them still farther instead of bringing them to the conscious life of the individual. Psychoanalysis already is being discarded with mesmerism and hypnotism and it has made its contribution.

Jung has a more logical conception of mental disturbances. He believes that our complexes, instead of being unconscious, are conscious. Our conflicts are a daily occurrence. We have a struggle to survive. There are many unhappy marriages and complex social and financial difficulties. These are difficulties as easily seen by the general practitioner as by the specialist.

Psychotherapy means treatment with the mind; that refers to the mind of the operator and not to the mind of the patient. Every successful physician is a good psychotherapist, even though he does not recognize it as such. The medical man will admit that it makes considerable difference if his patient has faith in his physician and a desire to live. The surgeon usually tells a patient to disregard his pain and use an injured muscle instead of resorting to a sedative.

Treatment with the mind then becomes very simple—so simple, in fact, that I see no reason for obscuring its fundamental

principles with pseudo-scientific terms or involved discussions which only the super-intelligent can understand. It is nothing more than a sympathetic understanding of human behavior united with good judgment and common sense.

The first important thing with this form of treatment, as with any other, is diagnosis. The reason the cults fail is because they do not differentiate one disease from another and use the same kind of treatment for all. Our judgment tells us that we cannot hypnotize virulent organisms, neither can we relieve a toxic condition by releasing complexes without removing the source of the infection. As we learn more about blood chemistry and as our laboratory methods become more perfected, we will find more and more organic bases for mental disease. There is nothing more humiliating to the surgeon than to operate on the patient and not find the source of his disease; neither is there anything more humiliating to a psychiatrist than to treat a patient mentally and find at autopsy that he died of generalized carcinomatosis.

Supposing, then, we have a condition where no organic lesion can be demonstrated and the patient must be treated with the mind. The first thing necessary is time. Many cults flourish because physicians do not take time to listen to the emotional ills of their patients; or, perhaps as soon as the condition has been recognized, the doctor is already planning to get rid of them as soon as possible. We see many patients who have had many examinations and forms of treatment and have never had an opportunity to tell their story.

I believe in the psychic effect of drugs and physiotherapy. The general practitioner must have some pay for his services and people are not educated to the place where they will pay for advice; they usually refuse to accept the latter and the bill remains unpaid. We have been accused of neglecting our patients, so we make an effort to give each patient some

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form of tangible treatment, usually in the form of a tonic. The relatives are content and the patient is satisfied because she is getting some medicine. Frequently a patient does improve sufficiently to go home and she tells her physician about the wonderful medicine used to cure mental disease and he, in turn, will write to the institution, humbly asking for the prescription, when in reality it was used only for psychic reasons. The therapy used always receives the credit and never the therapist.

The first principle of psychotherapy is re-education. In order to have any form of mental disease, a certain amount of education is necessary; obviously this is wrong and the individual must be re-educated. In this the patient must learn to know his relation to his fellow men; he must learn the harm of some pleasures and the necessity of bearing some pain. The truth in regard to his condition is revealed; this is a principle quite fundamental in the Scriptures, "Know the truth and the truth shall make you free."

We admit that there is much to heredity and that a resistance to a mental disease is carried from one generation to the next; this cannot be changed, but we can always change the environment. After all, the patient is not concerned about the fact that his uncle had dementia praecox, or that his father was an epileptic; what he wants is a relief from his symptoms. Many times psychiatrists are more interested in diagnosing and filing than they are in treating the patient's condition.

This, then, brings another important principle in psychotherapy, which is readjustment to environment. If the patient has had an honest opportunity to present his trouble to his physician, it is usually found to be tangible. There are many domestic problems or economic difficulties. The patient may be trying to hold a position requiring considerable mental stress when he only has the mental ability to do things with his hands; or the routine of life might be altered with travel and added experience. The physician has educational experience and a wide knowledge of human nature; this, then, can be used to bring about a state of harmony.

In an institution the occupational therapy department is an aid in the process of re-education, the social service in re-adjustment, but in many somatic diseases it is not necessary for a patient to enter a hospital. If a physician is able to treat minor organic diseases in the home, he

should also be able to treat some forms of mental trouble.

We are now concerned about correct diagnoses and successful treatment after the disease has once been established. But the successful practitioner of the future will be the one who can prevent illness. Preventive medicine includes that of the mind as well as the body. In our schools we teach cleanliness of the body; we have fly-swatting contests, and systematic exercise; why not a little more mental hygiene? Among children there are temper episodes, disobedience, behavior problems which need attention, for it is the peculiar child who will be the future mental patient and the delinquent child, the future criminal.

I beg to call your attention to one of the great problems of our state and commonwealth. Do you know that of the 6,852 hospitals in the United States, only 8 per cent are for the care of mental patients; that during 1928 the number of patients in mental hospitals exceeded those in general hospitals by more than 18 per cent; that the increase of patients in nervous and mental hospitals was almost twice that of patients in general hospitals? During 1928 one out of every 325 people was a patient in an institution for mental trouble and one out of every 500 people was a patient in a general hospital. In each generation one out of every 22 individuals will spend some time in a hospital for nervous and mental diseases.

The cure of any mental disease is questionable. Many honest and sincere physicians have called patients cured and presented interesting results, when in reality the condition has only been arrested to appear later. Prevention is the only solution, and this becomes the duty of all those who are interested in human welfare. The hospitals of the State of Michigan have established mental clinics for no other purpose than to call attention to this problem. We vaccinate to prevent smallpox, use antitoxin to prevent diphtheria, why not mental hygiene to prevent mental disease?

The general practitioner can do more to prevent mental disease than the specialist. He is in contact with every member of the family; he knows their bad family relations, their quarrels, their problems and their ideals. By friendly suggestion he may be able to prevent many irresponsible acts.

In every community the general practitioner will see individuals with outbursts

of temper, depressions and gloom and sorrow; or, again with a marked feeling of exhilaration. There is the mother who must be advised in regard to her dangers when she reaches the menopause, or the youth in regard to the problems of adolescence.

Every physician daily comes in contact with those selfish, egocentric adolescents, high in their self-esteem, with no regard for law and order. Mental hygiene might prevent a future criminal. There is the day-dreamy child, excelling in her classes, who should be taught to do things with her hands. There are many narrow individuals who have no vision of life; they should be led to see great spaces and great things. Widening the interests of these would be preventive medicine. Advice to parents in regard to child training may aid some. There are those petted children who will not be able to become a part of the herd because of their shielded and im-

mature personalities, and during conflict they will always retire to the family or flee from reality in a defense mechanism. We must occasionally offer a word of praise to those boys and girls who feel unworthy and inferior. Life for them, if they must stand alone, will be very difficult and complex. These are the individuals who may be the future mental patients.

The successful physician is the one who will choose such medicine or such surgery, or use such suggestion which will bring good results. There is no single treatment for any disease. Treatment with the mind includes the application of knowledge of all kinds for the benefit of man. It includes all suggestion which appears reasonable; it includes all the knowledge of experienced men; it is constantly changing and forever improving; it had its origin in religion and its application retains a similar sincerity and dignity.

MEDICINAL THERAPEUTICS*

W. H. MARSHALL, M. D.**

FLINT, MICHIGAN

It is a formidable task to attempt the presentation of even the principles of drug therapy in the brief time allotted to us. Rational drug therapy, in spite of attacks by nihilists and cultists, is easily defended and vindicated. We have no reason to be apologetic when we consider the enormous advances made by pharmacology in the last decade. But it is a difficult task to sift from the chaff of tradition, the grains of truth concerning the value of drugs in treatment. Unquestionably, our forefathers used drugs too freely and with little discrimination, misled, as we too may be, by the fallacy of "post hoc ergo propter hoc." In the pathological anatomy period, there was a tendency to use drugs too little. During the last decade, clinical medicine has been more interested in disordered function than in disordered structure, and consequently there have been many striking advances in treatment.

In some diseases, drugs play little or no part in affecting the course of the illness, yet in the management of most cases, the proper drug, given in the proper dose, at the right time, may either cure, relieve or console. Consolation is not a minor affair, particularly in dealing with patients who have a low level of intelligence. The public still has so much faith in drugs that millions of dollars worth of nostrums are sold annually. Hence we must recognize an insistent demand for symptomatic

treatment. Ideally, therapy should be a science, but practically, it is very much of an art. No man can master the use of more than a very few drugs. He should use them singly if possible, the indications for their use should be clear, the dosage should be adequate, and their untoward results thoroughly appreciated.

We propose to discuss (1) the use of a few specific drugs; (2) the use of drugs to correct disordered function; (3) the use of drugs based on certain pathological indications; and (4) their place in alleviating distressing symptoms.

ETIOLOGICAL CONSIDERATIONS

The most successful type of drug treatment is that directed towards the destruction of parasitic invaders. No one doubts the efficacy of male fern in tapeworm or of santonin in ascaris infestation. Nor does any reasonable person doubt the usefulness of quinin in malaria, emetin in amebic dysentery or of arsenic, bismuth,

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and mercury in syphilis. Yet, these specific drugs often fail because they are improperly used.

QUININ IN MALARIA

Malaria was once very prevalent in Michigan and is even now by no means a rare disease. This is due to the recent influx of laborers from the flood regions of the South. Every doctor in Michigan knows that quinin is a specific for this disease, yet there is very little uniformity in the mode of its administration. The method advised by the National Malarial Committee in 1918 is so simple and so effective that no other need be considered. Give the adult patient 0.6 gms. (10 grains) of quinin sulphate by mouth three times a day for three or four days. Follow this by 0.6 gm. (10 grains) every night for eight weeks. This will cure 90 per cent of all cases. If the drug is continued for fifteen weeks, 100 per cent of all cases will be cured.

EMETIN IN DYSENTERY

Acute amebic dysentery is rarely seen in Michigan, but chronic amebic colitis is not uncommon, as was shown by Dock and Freund, several years ago, at Ann Arbor. Fortunately we have a reasonably effective specific in emetin. For over ten years, we have used emetin-bismuth iodid with satisfactory results. Every morning, for the first six days, emetin-hydrochlorid is given intramuscularly in doses of 60 mgm. (1 grain). At the same time, we give emetin-bismuth iodid by the mouth, using the B W & Co tablet, once daily after the mid-day meal. For four days we give 15 mgm. ($\frac{1}{4}$ grain), during the next four days we increase the dose to 30 mgm. ($\frac{1}{2}$ grain), and for four more days we give 60 mgm. (1 grain). After this, we wait a month, and if amebae or cysts are still to be found in the stools, we repeat the treatment. In chronic cases two or three such courses are necessary to effect a cure.

SPECIFICS FOR SYPHILIS

We shall merely consider a few of the problems of syphilis in their relation to internal medicine. We are fortunate in having for its cure four distinctly effective drugs, arsenic, mercury, bismuth, and potassium iodid, each having its own definite field of usefulness. We all recognize the importance of the earliest possible diagnosis of syphilis, and its intensive treatment by arsphenamin, aided by bismuth or mercury. Nevertheless, the duty of

more thorough and prolonged treatment should be emphasized. Too often a patient, after a brief course of intensive treatment, has shown so much clinical improvement, that he is allowed to wait for the development of fresh symptoms. Nor is a negative Wassermann test after a brief course of treatment adequate insurance against future recrudescences of the disease. The patient should be watched clinically and serologically for many years. It is not within the scope of this paper, to recommend the use of any especial form of arsenic, bismuth, or mercury, to be used exclusively. This problem should be solved after a study of the needs of the individual case. The internist is more likely to be concerned with visceral syphilis than the syphilographer, and here we must sound a word of warning against routine or standard methods of treatment. Hepatic syphilis is much more common than is generally realized, and it is definitely harmed by arsphenamine, this drug being a powerful poison to the liver cells. The response to potassium iodid and mercury is usually good if the disease is not too far advanced. We would particularly stress the value of large doses of potassium iodid. So too in cardiovascular syphilis, arsphenamin in the usual dosage is harmful. Large doses of potassium iodid with small long continued doses of mercury or bismuth will give far better results. If arsphenamin is to be used, it should only be after a course of mercury or bismuth, and then with a low initial dosage. Pulmonary syphilis improves rapidly on iodid alone, after which long courses of mercury or bismuth are advisable. The treatment of neurosyphilis is too complicated to discuss in the scope of this paper.

REMEDIES ALMOST SPECIFIC

Ten years ago, diabetes mellitus, pernicious anemia, and pernicious vomiting of pregnancy were the despair of the physician. Since that time, three valuable discoveries have demonstrated that the science of therapeutics is not at a standstill. Insulin, properly administered to control hyperglycemia on a maintenance diet, increases the life tenure of the diabetic enormously, and it can properly be termed a specific in the management of diabetic coma. Liver extract seems to restore the blood and general health of the pernicious anemia patient, provided the spinal cord changes are not too far advanced. Moreover, in secondary anemia, liver in conjunction with large doses of iron, e. g., the pill of ferrous carbonate, or a mixture of

iron and ammonium citrate, appears to hasten regeneration of hemoglobin. It would be difficult to estimate the thousands of human lives that have been saved by the treatment of pernicious vomiting of pregnancy with intravenous dextrose solutions. The dehydrated severely toxic patient will show a miraculous improvement within a very few days. A successful method is the intravenous injection of 1,000 c.c.s. of 5% dextrose in physiological saline solution, to be given daily until the urinary output reaches 1,000 c.c. a day. All of these measures have been fully discussed at recent meetings, and I merely mention them to prove that drugs, scientifically used, may produce marvellous results.

DRUGS IN DISORDERS OF FUNCTION

The most important clinical manifestations of disease are those produced by disordered function. The importance of correcting these disturbances is that we make a break into the vicious circle of disease. The correction of an auricular fibrillation may cure the dyspepsia produced by a congested liver and portal system. Only a few such disturbances will be discussed at this time.

DYSFUNCTIONS OF THE THYROID GLAND

Striking advances have been made in the last decade in the management of dysfunctions of the thyroid gland. In the prophylaxis of endemic goiter, the evidence is convincing that the administration of 10 mgm. of iodine a week during childhood will eliminate this distressing affliction. Any form of iodine will prove effective. The problem of colloid goiter is not so simple. In the young adult, 20 to 30 mgm. ($\frac{1}{3}$ to $\frac{1}{2}$ grain) of iodine a week is often effective but if the disease is of several years' duration, it is advisable to add thyroid extract, 16 mgm. ($\frac{1}{4}$ grain) a day. The most spectacular advance in drug therapy for many years has been the introduction of the use of iodine in the management of exophthalmic goiter. The patient, at rest in bed, is given 1 to 3 c.c.s. (15 to 45 min.) liquor iodi compositus each day, the amount depending on the severity of the case. In a week or ten days, the patient is so much improved that a subtotal thyroidectomy can be done with safety. The operative risk has been greatly lowered and the dreaded postoperative toxemia prevented. The use of the iodine in small doses after the operation is often desirable. Lugol's solution may properly be considered a specific for the toxic crises of

exophthalmic goiter. Prior to 1922, many patients died of these crises before operation could be performed. Now, by the administration of fluids intravenously, morphin subcutaneously, and liquor iodi compositus in large doses, the entire picture changes in a few days and the patient is safe for operation.

HYPOTHYROID STATES

Last year, in this section, the myxedematous states were fully discussed. Treatment by substitution therapy, i. e., by desiccated thyroid extract, is of appreciable value. There are a few fundamental points to remember when using this drug. Do not prescribe full dosage at once if the basal metabolic rate is very low, or if there is pronounced anemia. Under such circumstances, the cardiovascular system is unable to withstand the strain produced by full dosage. Commence with small doses and increase until there is clinical improvement, a matter of just as much importance as the basal metabolic rate. In most instances 0.1 to 0.3 gm. ($1\frac{1}{2}$ to 5 grains) will be an adequate daily dose. Become familiar with a preparation of some reliable firm and stick to its use. The official desiccated extract is probably of more clinical value than the more highly standardized thyroxin.

CARDIAC DYSFUNCTION

It would be difficult to attempt the treatment of cardiac decompensation without digitalis. The use of this venerable drug is much more precise and scientific than it was fifteen years ago, thanks to the work of Eggleston and others. Broadly considered, the indication for its use is myocardial insufficiency, with or without valvular disease. We are much perplexed by the multiplicity of digitalis preparations detailed by enterprising manufacturers. Only two preparations are necessary—a pill or tablet of powdered digitalis leaves, and a good standardized tincture. My own preference is for the powdered leaves, as being the simplest, least expensive, and most accurate method of use. If the patient is very ill, the body weight method of Eggleston is commendable, producing a digitalis effect within twenty-four hours. If the decompensation is slight or moderate, one may use smaller doses, e. g., 0.1 gm. ($1\frac{1}{2}$ grains) three times a day, until digitalis action is apparent or until toxic signs appear. It is difficult to explain the carelessness of our profession in the use of digitalis, when we realize that

Withering, who introduced the drug into clinical medicine, wrote in 1785: "Let the drug be given in doses of one to three grains of the powder, twice a day. Let it be continued until it acts either on the kidneys, stomach, pulse or bowels. Let it be stopped on the first appearance of these effects. About thirty grains are necessary to produce nausea." We cannot improve upon these directions today.

WHEN DIGITALIS FAILS

When digitalis fails to produce diuresis, we have occasionally obtained good results by giving ammonium chloride or nitrate 1 gm. four times a day and on the third day commencing novasurol (merbaphen), $\frac{1}{2}$ c.c. intravenously. Next day we give 1 c.c. and repeat this dose every two or three days until the edema disappears. Salyrgan, a similar mercurial compound, acts in the same way and is given in the same dosage. It is said to be less toxic. The caffeine and theobromine derivatives, e. g., theocin 0.3 gm. (5 grains) or theobromine sodio salicylate 0.6 to 1 gm. (10 to 15 grains), given by mouth are occasionally effective, but very frequently are not well tolerated by the stomach.

QUINIDIN

The enthusiasm following the earlier statements concerning the efficacy of quinidin has definitely waned. Its use should not be considered where there is evidence of a badly damaged heart muscle. It frequently relieves paroxysmal attacks of auricular fibrillation, and where auricular fibrillation persists after a thyroidectomy, it should be tried. It often relieves annoying extrasystoles. It has a definite field of usefulness in the treatment of the paroxysmal tachycardias. If the type is auricular, 0.4 gm. (6 grains) once or twice a day may prove effective. If the tachycardia is ventricular, quinidin should be given in full doses until the rhythm is normal, after which, a small daily dose, e. g., 0.2 gm. (3 grains) will prevent recurrences. In using the drug, it is customary to give 0.2 gm. (3 grains) and to repeat the dose in four hours. If the patient is not sensitive to the drug, 0.4 gm. (6 grains) should be given three times a day until the rhythm is normal.

ESSENTIAL HYPERTENSION

There is a type of essential hypertension occurring in tense, highstrung individuals in whom no renal damage is apparent, that can be definitely lowered by small doses

of pheno-barbital (luminal), or by potassium bromide. The relief of the subjective symptoms is very much appreciated.

RELIEF OF ANGINA PECTORIS

While we may not be able to cure angina pectoris by drugs, they certainly play an important role in keeping the patient comfortable. The theobromine derivatives seem to facilitate coronary flow and to decrease the frequency of attacks. Euphyllin, 0.1 gm. ($1\frac{1}{2}$ grains) three times a day has seemed to be very valuable. The value of the time-honored nitrites in lessening the severity of the attacks is well known. A nitroglycerin tablet dissolved under the tongue usually gives prompt relief.

DRUGS AFFECTING RESPIRATORY FUNCTION

We have a few useful agents which modify the function of the respiratory system. The researches of Henderson have demonstrated the value of a mixture of carbon dioxide 5% and oxygen in stimulating respiration in asphyxia of various forms. Every hospital should have an H. H. inhalator in the emergency room and have an attendant trained in its use. The evidence, both experimental and clinical, is convincing that this procedure is of great value in postoperative atelectasis and in the so-called postoperative pneumonias. The breathing becomes deeper, the lungs dilate, bronchial peristalsis becomes more active, and thus the bronchioles are drained. Undoubtedly, this procedure will assume a definite place in the treatment of pneumonias, especially those of the influenzal type. The distressing dyspnea of bronchial asthma is relieved very promptly by the injection of 0.3 to 0.6 c.c. (to 10 minims) of liquor epinephrin (1-1,000). Ephedrine, 30 mgm. ($\frac{1}{2}$ grain) by mouth acts in a similar manner, giving a slower but more prolonged relief. Atropin is still largely used as an antispasmodic in asthma. Given in large doses, it is of value in the acute edema which occasionally comes on during the first day or two of pneumonia, but it is of little use in the late edemas.

DISTURBANCES OF GASTRO-INTESTINAL FUNCTION

A very large percentage of the dyspepsias which we see are functional and are the expression of a disordered nervous system. In a way, the diagnosis of a gastrointestinal neurosis is apologetic, but it is certain that if we correct our patient's life adjustments, and restore the sleep hab-

it by small doses of a sedative, such as pheno-barbital (luminal) or sodium bromide, the results are distinctly satisfactory. The sovereign antispasmodic, belladonna, is useful in depressing vagus tone and in lessening motor and secretory functions. In such conditions as cardiospasm, pylorospasm, peptic ulcer with spasm, or spastic colitis, belladonna pushed to its physiological effect is a very effective and useful drug. The Sippy management of ulcer popularized the use of alkalis. The neutralization of excessive acid by soluble alkalis e. g., sodium bicarbonate or by the insoluble alkalis e. g., magnesium oxid, or calcium carbonate, permits the pylorus to open more readily and thus allow the normal regurgitation of the alkaline duodenal contents. Certainly alkalis give symptomatic relief and probably promote healing in ulcer, but the danger of alkalosis from the use of too much soluble alkali must be borne in mind. Hydrochloric acid does not hold as prominent a place as formerly, but in certain demonstrable achylas it may give symptomatic relief if given in large doses. Purgatives have gone out of fashion with medical men on account of their vicious action on the colon and rectum. However, salines have a place, e. g., where there is marked edema, where a rapid emptying of the colon is desirable, or where a chronic toxemia exists, such as uremia. In the aged, laxatives are often desirable, cascara and senna being the most effective and least harmful. Mechanical aperients such as liquid petroleum and agar may be helpful in slight cases of constipation.

PATHOLOGICAL INDICATIONS

The great development of pathological anatomy has begotten a certain heartlessness in therapeutics, and this is a very natural reaction. In the control of inflammatory processes, we can help very little with drugs. Intravenous antiseptics have not lived up to the high expectations which heralded their advent. However, many consider mercurochrome soluble, given intravenously, in doses of 5 mgm. per kilo body weight, of distinct value in the treatment of kidney and bladder infections, especially those caused colon group of organisms. Methamine is occasionally helpful as a mild urinary antiseptic, but more often fails of its purpose. Occasionally, we can remove the products of infection by drugs. Thus, potassium iodid is exceedingly useful in promoting the absorption of gummata, and given in large doses intravenously hastens the absorption

of exudates in some forms of neuro-syphilis. In the control of atrophy and fibrosis, we can do little by drugs. Cerebral edema can be relieved considerably by drugs, hypertonic saline, and 50% dextrose solution intravenously being especially effective in lowering intracranial pressure. Introduced by Cushing, and popularized in Michigan by Peet, it has materially lowered the mortality following head injuries. Another pathological condition that is considerably controlled by drugs is internal hemorrhage, gastro-intestinal or pulmonary. Opium quiets functional activity in the various organs, promotes mental calm, and induces sleep.

SYMPTOMATIC TREATMENT

There has been a tendency to condemn symptomatic treatment because it is unscientific. Some of this criticism is unsound, for symptomatic treatment is often of the utmost value. For example, the insomnia of typhoid or of pneumonia may be so exhausting as to prevent recovery. Moreover, pain is wholly evil in its effects, breaking rest and sleep, disturbing digestion, accelerating exhaustion, and hastening death. While we must appreciate the etiology of pain and treat it rationally, yet it is our duty to relieve it wherever possible. In acute conditions that will last but a brief time, e. g., grippe, acute headache, myalgia, neuralgia, herpes zoster, etc., the synthetic analgesics such as acetphenetidin, acetyl-salicylic acid, or pyramidon in moderate doses give comfort and have few real disadvantages. Sodium salicylate is almost a specific for the joint pains and fever of acute rheumatic fever. Given in doses of 0.6 gm. (10 grains) with soda bicarbonate 1.2 gms. (20 grains) every hour until the patient is free from pain, and every four hours until convalescence is established, this is one of the most helpful drugs in our possession. Smaller doses, e. g., 0.6 gm. (10 grains) three times a day, may promote comfort in certain cases of chronic arthritis.

USES OF HYPNOTICS

Unquestionably other forms of etiological treatment are desirable in combating insomnia, yet it is only cant to say that hypnotics should only be used as a last resort. Insomnia soon becomes a habit, and may damage the brain just as much as a drug. Bromides, paraldehyde, chloral, and the barbital series have a place in clinical medicine. Of the barbital group, pheno-barbital (luminal) is most popular today, and has a wide field of usefulness in

daily practice wherever a mild sedative or hypnotic is indicated. In the commoner types of epilepsy as seen in general practice, pheno-barbital, 60 mgm. to 0.2 gm. (1 to 3 grains) at bedtime, reduces the frequency of the seizures and promotes improvement of the patient's general health. There is no good evidence to show that mental deterioration is hastened by its use. It has fewer of the objectionable features attendant upon the use of bromides. For the muscle rigidities and tremors of the Parkinsonian sequelae of encephalitis, a combination of pheno-barbital, 16 mgm. ($\frac{1}{4}$ grain) with scopolamine 0.4 mgm. ($\frac{1}{150}$ grain) gives appreciable relief. Such obvious symptomatic treatment as the control of unproductive cough by codein, etc., needs no discussion.

THE HOPELESS CASE

Finally, we must recognize that some diseases are by their very nature inevitably fatal. The ghastly torments of pain in malignant disease should be abolished by full doses of morphin. A painful death-bed is distressing not only to the patient but also to his friends, and is a reproach to the physician in attendance. Moreover, there is a stage in every mortal disease where curative treatment is not only hopeless but unnecessary and cruel. In chronic uremia, where cure is out of the question, we should smooth the downward path by chloral hydrate, paraldehyde or morphin. In the last stages of heart failure, where no more effects can be obtained from digitalis, etc., and where dyspnea and insomnia make life unbearable, morphin reduces the suffering to a minimum for the remainder of life. So, too, in hopeless cases of tuberculosis complicated by painful lesions of the larynx, or by chronic ulcerative enteritis, the free use of opium is the most humane thing we can do.

I hope to have shown in this brief review of commonly used drugs, that many of them merit our confidence. I am optimistic about the future of drug therapy and feel quite certain that the labors of chemists and pharmacologists co-ordinated with those of the clinician, will add from year to year to our list of reliable measures for the relief of human suffering.

SYMPOSIUM ON THERAPEUTICS

DISCUSSION

Dr. William Donald, (Detroit): I desire very sincerely to speak for a few moments upon the last three of these papers. I did not hear the first, only a portion of the second, and the third was withdrawn.

I was exceedingly charmed with the address of Dr. Yoder. I looked around and saw the group of men and women filling the auditorium listening to this symposium upon therapeutics. I was reminded of two years ago when the local chairman of the committee organizing a clinic in Detroit for the assembled physicians and surgeons of the Pennsylvania Railroad, a large group of men from all over the Pennsylvania System, selected me to take up the medical side as against the surgical side in a certain symposium. At that time I took up the consideration of mental medicine about as Dr. Yoder did today, and I was interested in seeing that he held his audience, as I did, even better because he had a somewhat larger group. The subject was so interesting—not that it was so well put; don't misunderstand me—that when I concluded my address in 20 minutes I was asked by the chairman to continue for a little longer because the men apparently wanted just that. They wanted the knowledge of psychic medicine.

A few years ago I saw Dr. George Draper of New York, whom you all know so well. I was talking to him about his own private clinic, and he said to me just about as Dr. Yoder said today, "The trouble with the ordinary physician today is that he is so damned busy he can't get the story of the patient. I don't use very much medicine in my practice, but I do use an awful lot of time. When I call a patient into my office, the vast majority being immature adults of both sexes, I shut the door, give him or her a comfortable seat and say, 'Well, old fellow,' or 'Well, young lady, what is it all about?' I get the story by a little gentle questioning and suggestions. In a short time I have the whole story."

As Dr. Yoder said today, it is a case where they have been tortured by examinations of various kinds, chemical, physiological, and so forth, and nothing is found. The patient is like the woman in the Bible that Luke tells about. She comes to me with the story of continual troubles, irritations and mortifications, and there I have my case for a bit of psychic therapy.

I want to make the plea for more thorough examination of the patient, and let the patient tell his story, and a plea, as one of the other gentlemen said to you here, for time enough to get a diagnosis before commencing the therapeutics. I can commend it very highly, and I think it is so exceedingly valuable, but I don't want to say too much because plenty of other men want to talk.

There was the heavy artillery of my friend Marshall. I think his paper was wholly admirable, and I think it was generally good. There are some points which I would dispute with him, but he and I can take that up in private.

There is just one point I should like to make, and that is in regard to the question of vaccines. I think the point was made that selection should be made of "toxoid" rather than antitoxin. I am very much interested because two years ago at the meeting of the Tri-State Medical Society in Detroit, at which I presided, Dr. Fitzgerald of Toronto, in charge of the Royal Connaught Laboratories, brought up that same question and gave an address upon that advocating the use of toxin.

The Michigan State Board of Health antagonized him very keenly and very forcibly. As far as I can gather, the chief antagonism was not that toxoid was inferior to toxin-antitoxin, but that the State Board of Health has a large plant devoted to the production of toxin-antitoxin, and could not afford a change now.

Dr. C. C. Sturgis, (Ann Arbor): I have been interested in therapeutics, especially from the standpoint of what we should teach our medical students, for a number of years. Ever since I can remember, and two or three times each year, there has arisen a discussion in the medical faculty as to whether we teach our students enough therapeutics, and it is repeatedly charged that we do not.

I think one reason that arises is that we lay more emphasis perhaps on diagnosis than we do on actual therapy. I think that stand can be defended to a certain extent, because certainly it is quite impossible to treat a patient unless you are certain of the disease from which the patient is suffering.

Several years ago I came across a very excellent example of the relative importance of treatment and diagnosis. The patient had, in the course of two years, consulted 25 physicians and the diagnosis had not been made although the patient had been prescribed a great many different forms of therapy. The twenty-sixth physician made the diagnosis, which was correct, of myxedema, and it was a very simple matter to prescribe two grains of thyroid a day until the patient's health was completely restored. So we feel if we don't teach enough therapeutics we at least try to emphasize the importance of the diagnosis.

Even when you have a correct diagnosis and there is a known form of therapy for it, it has been my experience that your results may not be satisfactory in all cases, and when the results are not satisfactory it is usually due to one of three reasons: In the first place, the drug may not be potent if you are using a drug therapy; in the second place, you may not get the intelligent co-operation of the patient; in the third place, you may not administer the treatment properly.

Some years ago, I think there was a good deal of trouble with drugs not being potent. With the modern, sincere drug houses that we have these days, it is much less of a criticism, but, for example, the only way to assay dried thyroid gland at present is to estimate the amount of organic iodine which is present. A good many years ago the unscrupulous drug manufacturer would simply add some organic iodine compound to the thyroid and therefore would give a very high test, but his product would be entirely worthless.

Then, again, it is not always possible to assay drugs; there is no method of doing it. A very excellent example of that is liver extract. If you apply the well recognized ways of making liver extract and carry out each step very precisely, your end product may be potent or it may not be potent. We are working with an unknown substance. We don't know the slips that may happen when we take 2,000 pounds of liver and finally extract the active principle from it. The only way liver extract can be assayed is by trying it on a patient with pernicious anemia and determining the effect, especially on the immature red blood cells. But drug manufacturing houses do not always have clinical facilities to test each lot.

The second reason why therapy fails is because the patient does not co-operate intelligently with you. Some years ago when I was connected with another institution I sent out letters to all patients with myxedema asking them to return and get their percentage of supplies. I was very much amazed to find that over half of those patients had completely relapsed although they had been given the proper treatment and had been told it was necessary to take a certain amount of thyroid

each day. I suppose that is the curious side of human nature. It is hard for a patient to take medicine if he feels well. If they omit a dose of thyroid one day and don't notice any change in the next day, or perhaps a week or ten days, they think they can discontinue it altogether, so a very large percentage of them had relapsed.

That is too bad, because here is a disease that we can control, and yet just through the patient's lack of intelligent co-operation we failed.

The same is true in the treatment of pernicious anemia. A few days ago we went over all the patients we had treated in the Simpson Memorial Institute, and we found that about 25 per cent of them relapsed because they stopped taking liver or liver extract.

I can sympathize with them. It is difficult to eat half a pound of liver a day. Some patients cannot do it indefinitely, but it is no hardship to take the liver extract. The reason they stopped is because they thought they were perhaps the one exception that could go without it.

As a result of this, we have tried to educate our patients with pernicious anemia. We have gotten out a little manual, similar to that given to diabetic patients, to educate the patients and tell them what the disease is and try to secure their co-operation better in that way. The same thing applies to diabetic patients, myxedema patients, and patients with any chronic disease which requires more or less constant management. We may fail just because the patient won't do what we tell him to do.

The third reason, I think, is important. We may fail to get therapeutic results because we omit some little detail of treatment. It may be only a very minor thing, but it may mean the difference between success and failure.

Dr. Marshall, for example, mentioned the use of tincture of digitalis. If you have a patient with chronic cardiac failure, and you make the diagnosis correctly, you know that digitalis is the drug to use. If you use the tincture, in many, many cases physicians assume that one drop is one minim when, as a matter of fact, it takes 30 to 60 drops of a tincture to make 15 minims and, as he said, it depends on the bore of the dropper, how you hold it and how rapidly you eject the fluid.

I want to say in closing that I am very much interested in teaching therapeutics. We are trying to introduce some new measures this year at Ann Arbor in teaching this particular subject, but I think after all a sound knowledge of therapeutics depends upon the scientific knowledge of the action of drugs combined with a long experience at the bedside of the patient. (Applause).

Dr. William Donald, (Detroit): I want to ask Dr. Sturgis if he will reply to this question as to whether, in his very large experience at the Simpson Memorial Institute, in pernicious anemia he finds that the patients revolt against use of the liver extract. We know they do at the feeding of liver.

Dr. C. C. Sturgis, (Ann Arbor): In reply to Dr. Donald's question, it certainly is very rare that we see a patient refusing to continue with liver extract. I am not sure that they ever do. They certainly do revolt against the liver. After all, it is a different thing trying to chew a half pound of meat than it is from simply dissolving a powder in a quarter of a glass of fluid and forcing it down.

We have noticed this although I am not entirely sure about it. We have an idea that a pa-

tient with pernicious anemia may have a normal blood but still develop gastro-intestinal disturbances, and really go through a relapse with the exception that the blood is kept at normal. I have seen a few cases of that, and they have had difficulty in taking the liver. It certainly is much easier for them to take the liver extract than to eat the liver itself.

Dr. Wm. Donald, (Detroit): Has there been any cheapening of the product?

Dr. C. C. Sturgis, (Ann Arbor): We are very enthusiastic because, as some of you undoubtedly know, we have discovered that desiccated hog's stomach has exactly the same effect as liver itself. It is a much more palatable preparation and certainly ought to be a great deal cheaper. Liver is quite expensive to begin with and the hog's stomach is, of course, a waste product. We found that a gram of the hog's stomach is more active than a gram of liver, so we feel quite encouraged that the hog's stomach preparation will be much less expensive.

Dr. William Donald, (Detroit): Did you say the pepsin was extracted before the stomach is used?

Dr. Sturgis: The only use they have for hog's stomach is to make pepsin and that takes only a small percentage of the stomachs available from the slaughter houses.

Dr. Conrad George, (Ann Arbor): I wish to present foods active in surgical procedures in two great lines of diseases. In my opinion, when these foods are used as such the surgical cases will be restricted to the exceptional cases.

I was called to Detroit on a case where the diagnosis was positively made and the treatment advised by the ablest men. It was a case of abscess of the left lower lobe of the lung in a boy 14 years of age. The exudate was a quart in 24 hours. The last man on the case before me proposed to operate, tunnel into that lung, but the mother wouldn't allow it. Under those conditions, I was called in. I looked over the case and the idea came to me that the surgery was for drainage, so I thought, "Why can't I do drainage?" So I resolved what to do. In regard to the food, the mother told me that the boy strongly objected to all vegetables and fruits. As I had to have the boy's co-operation in the matter, I promised that he should not be troubled with any vegetables or any fruits if he would obey me. The boy readily promised. I said, "Here is this pus down here and I want to drain it out through your mouth without coughing, because you can't get it out."

My medical treatment, as the older men know we had in all lung trouble, was chlorid of ammonium in five grain doses. That case was successfully cured.

It is in this stage that the food change comes in. Why it does remains yet to be explained, but here is the point: All foods are divided into two grand classes. One side is the alkaline and the other side is the acid, and you know from recent works that it is the little change between four and five points to six and seven points in the hydrogen-ion concentration that makes it either alkaline or acid, the electrolytic action of the body.

The vegetables and fruits belong to the alkaline class, except brussels sprouts and cabbage. These are acid. Meats, cereals and nuts are all acid.

My boy had the acid diet. That is what Sauerbruch called attention to in the suppurative cases. He could make no progress until he had put his patients on the entire acids of fruits. The chem-

ists found out why. When you have suppurative disease, and especially abscess of the lung which is now a surgical disease, you strap your patient upside down the same as in the Trendelenburg position, and you put him on the acid food, giving him no vegetables or fruits.

Now about the chlorid of ammonium: They found that food alone would not change the electrolytic action; acid had to be with it. They either had to give the hydrochloric acid, the phosphoric acid or the chlorid of ammonium. You see we older fellows gave the chlorid of ammonium with very different ideas from the chemist or physiologist. Your food alone will not do it. You either have to have the hydrochloric acid, the phosphoric acid or the chlorid of ammonium. That treatment will eliminate the surgical work in abscess of the lung. That is my positive conviction.

We hear in modern times that the physician—I shouldn't say physician because he has no business to touch a thyroid gland; that is in surgical domain. I have been in the habit of treating thyroid glands for nearly 60 years, and I was an old man in the treatment of thyroid glands when Kocher made his first statement of the first 1,000 cases. In all my life not five cases have gone to the surgeon, and they didn't die of it either. (Laughter). The Rockefeller man discovered the poison that was actually produced in Basedow's disease. Both men produced their papers the same year.

The German calls it Basedow, the English and the Irish call it Graves' disease, but they all have the enlarged thyroid, the bulging eyes, and heart trouble, the shaking and the sweats. I think that is enough to make a Basedow's disease.

I am going to put this case on record so clearly and distinctly that it cannot be questioned as to its authenticity. The German discovered that nature produced the thyroxin from the amino acid tryptophan. He went a step further than Kendall. He found the source from which nature produced the thyroxin, the tryptophan. When you know the action of an amino acid, you can strike it with the food that is furnished. The main food supplies of tryptophan consist of all the meats, fats, milk, cheese, eggs and, strange to say, everything in wheat. These are the foods that are the carriers of tryptophan.

MENINGITIS DECREASE MAY BE DUE TO RESTRICTIONS

The steady increase in number of cases of cerebro-spinal meningitis which has been continuing for the last two years now shows definite signs of having been checked, probably as a result of the restrictions recently placed on persons entering this country from the Orient, public health statistics show. The number of cases reported from all over the United States for the week just ended was 99. This is one of the lowest figures reported for the entire year. Part of the decrease may be due to seasonal variation in the prevalence of the disease, but part of it is undoubtedly the result of the quarantine regulations for vessels from Oriental ports. These regulations were put into effect in an effort to check the rising epidemic of meningitis on the Pacific Coast which had been traced to immigrants from certain Oriental ports.

Under authority of an old, seldom-used law, President Hoover directed the U. S. Public Health Service to put into effect such restrictions as would prevent the further entry into the country of cases or carriers of meningitis.—Science Service.

SOME ALLIED MANIFESTATIONS of ALLERGY IN CHILDREN

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A relatively large proportion of individuals become sensitive to one or more foreign agents. It is estimated that 3 to 5 per cent of the population of the United States are sufferers from asthma and hay fever. Numerous others present symptoms of allergy in the skin, gastro intestinal tract and nervous system.

The chief predisposing cause of hypersensitiveness is undoubtedly heredity. Numerous investigators report positive allergic family histories in from 65 to 90 per cent of asthma and hay fever cases. The extreme possibility of these and other allergic phenomena appearing in the offspring of such individuals should be borne in mind.

An individual may become sensitive to a great variety of alien agents, including foods, pollens, drugs, feathers, furs, smoke, dust, vapours, volatile oils, animal sera, bacteria, insect toxins and specific physical agents such as cold, heat, light and mechanical irritation.

It must be remembered that an individual once sensitized is always a possible sufferer, although the sensitizing agent and nature of the allergic response may vary from time to time, or entirely disappear.

Children are born specifically sensitive to foods. This accounts for the fact that the first time a mother adds cream of wheat, eggs or some other food to the child's diet, hives, eczema or asthma develop. Children as a rule are not born specifically sensitive to the epidermals and the inhalants, but acquire these sensitizations later. The more massive the degree of contact the more liable the sensitization. For this reason all children with a family history of asthma or hay fever, or with a personal history of hives, eczema or other allergic phenomena, should be protected from close contact with animals, birds, furs and feathers.

In infancy, foods are the chief sensitizing agents and eczema the most frequent allergic phenomenon. With increasing age new sensitizations, including inhalants and epidermals, are acquired and others lost. Asthma or hay fever may now manifest itself. Multiple sensitization is frequently found. At any age, however, any type of sensitization and allergic phenomenon can and does occur.

Grouping all ages together, asthma and hay fever are the most prevalent allergic manifestations. In children especially, however, other phenomena are equally

prominent. It is the purpose of this paper to discuss these so-called allied manifestations of allergy.

A case presenting symptoms suspected of being allergic requires careful investigation. A family history of definite allergic phenomena such as asthma, hay fever or eczema or a similar personal history is important. Skin tests to determine the etiological agent to which the patient is sensitive must be carried out.

In our experience, the cutaneous test has been the most practical. Small abrasions are made with a needle or Pirquet borer, on the flexor surfaces of the forearm or front of the thighs. A small amount of tenth normal sodium-hydroxide is applied to each abrasion, followed by a small amount of dry protein extract. Reactions in children are frequently faint and difficult of interpretation. A slight erythema may indicate an extremely significant etiological agent. This is especially true of reactions to food. Delayed reactions are not uncommon, and for this reason readings should be made in 24 hours. As in many cases of asthma and hay fever, not all cases of eczema can be shown to be sensitive. In some, positive tests can be obtained, but these may not bear relationship to the etiological factors. In the face of negative tests in eczema one must feel that in some of these cases an obscure offending protein has not been tested for. In other cases the skin is undoubtedly refractory to the tests. Local areas may be found where positive tests can be obtained due to increased local hypersensitiveness. In one case of facial eczema in an infant in which all skin tests were negative, the history was suggestive of spinach as the causal agent. Tests on the arm were negative. A test for spinach on the forehead was definitely positive. If it were practical to carry out the tests on the susceptible skin areas, many of these cases could be solved.

Intradermal tests are valuable where

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negative results are obtained with the scratch method. They are, however, much more difficult to perform in young children and infants and are not entirely devoid of danger. Severe reactions resembling anaphylactic shock have occurred following an intradermal injection in very sensitive patients.

It is felt that group tests are very unreliable. In a group of proteins as small as whole wheat or whole milk, one frequently finds negative results for the whole substance, but a positive result for one of their constituents. For example lact-albumin may be positive and whole milk negative. Frequently one elicits a positive test for wheat proteose and a negative test for whole wheat. In general the larger the group used the greater the possibility of negative results.

The following case of eczema serves to illustrate some interesting points. Case E. D.—This was a five-year-old boy who had facial eczema during the entire first year of life, while having been fed on both breast and bottle. The family history was negative for asthma and hay fever. At the age of two and one-half years he developed a chronic eczema of the flexor surfaces of the elbows, wrists, knees and ankles, which persisted despite considerable local treatment. His skin tests showed positive reactions to cheese and tuna-fish and a faint reaction to cow's milk. Casein, lact albumin and lactoglobulin were negative. Cabbage, spinach, cocoanut and numerous furs and feathers gave slight reactions.

The milk was boiled and the other items interdicted without relief. Milk was then entirely removed from the diet with excellent result. The usual local treatment was instituted for local relief for the period of investigation. Six weeks later when the child was entirely free of symptoms, a sudden exacerbation occurred. An investigation of his diet showed that he had been given a small amount of chocolate. This had apparently enough milk in it to reproduce the eczema.

Milk sensitization in infants is a more difficult problem. The breast fed infant may be sensitized, not to its mother's milk, but to other proteins. Tests for other proteins may indicate the withdrawal of offending foods from the mother's diet. The infant can thus be shown to be sensitive to some foods ingested by the mother and not to the breast milk. Weaning is not justified unless tests for all the fractions of cow's milk are negative.

The bottle fed baby sensitive to cow's milk presents great difficulty. The infant may be sensitive—not to cow's milk but to bran, oats or other fodder ingested by the cow. If lact albumin is responsible, prolonged boiling of the milk may change this protein sufficiently so that it can be tolerated. If the casein fraction is responsible the milk can be peptonized, or various dried preparations can be used. Goats' milk may be effective. In many milk-sensitive cases no procedure can change the chemistry of the milk sufficiently. It is in these cases that we must rely upon external applications, alpine light and x-ray therapy for relief, until the infant desensitizes itself or until it can be placed on a milk free regime. The use of foreign protein injections may be of value. We have had occasional good results with injections of bacterial vaccines, such as typhoid and Coley's fluid, and with distilled water injections. The latter seems to be the least harmful and certainly obviates the danger of further sensitizing the patient. The distilled water probably hemolyses the tissue locally, producing an autogenous proteïn.

Other manifestations in the skin such as various types of urticaria, pruritis, antineurotic-odema and occasional cases of purpura have been shown to be allergic. These conditions may occur as part of a general allergic reaction or alone. They may be caused by ingested food or by contact. Removal of the offending agent has cleared up these conditions when shown to be specifically sensitized.

Recurrent coryza and the so-called upper respiratory infections are frequently allergic in nature. The following child is typical of this group.

Case A. E.—Age five years. The father has hay fever. The child was perfectly well until three years of age. There was no personal history of asthma, hay fever or hives. Since three years of age he has suffered very frequently, especially from October to May, from repeated attacks of running nose, slight cough and occasional bronchitis. His tonsils and adenoids were removed one year ago without appreciably affecting his condition. Physical examination was entirely negative. Clinical and x-ray examination of the sinuses were negative. The tuberculin (Pirquet) test was also negative.

The child was then tested for eighty proteins of which wheat globulin and almonds were positive. Since being placed on a wheat free diet, during the past five

months this patient has had one nose cold without associated bronchitis.

Abdominal pain is a symptom dependent on many cases. Allergy as a possible etiological factor should be considered. The following case illustrates this condition.

Case J. L.—This was a girl aged eight years. A paternal uncle had had hay fever. During the past two and one-half years the child had been having pain in the left side of the abdomen lasting 2 to 3 hours. This pain was sharp, knife-like in character, and was not associated with fever or nausea. The attacks recurred every two to three months. The child had been treated for pyelitis on several occasions. The diagnosis of recurring appendicitis had also been made.

On examination no definite findings were made. The throat, heart, lungs, abdomen and urine were negative. A few isolated urticarial wheals were found on the back. On questioning the mother it was found that with each attack a few hives appeared. Sensitization tests were subsequently carried out. Tuna-fish was strongly positive. A positive tuna-fish reaction is an occurrence in many normal as well as sensitized individuals. In the latter its relationship to the disease or symptom under observation is frequently questionable. In this case, however, it was not difficult to demonstrate that tuna-fish was etiologically significant. When it was removed from the diet no further attacks occurred for six months. The mother at that time wished to prove the matter to her own satisfaction and fed the child a tuna-fish sandwich. In a few hours a typical attack occurred.

Others have reported cases of abdominal pain associated with hemorrhage from the bowels which were subsequently shown to be allergic. It is suggested that some cases of Henoch's Purpura may be explained on this basis.

Allergic reactions in the nervous system are relatively uncommon. These may be manifested by headache, typical migraine, parasthesias, or by definite convulsions. There may be other allergic phenomena in association, directing one's attention to the allergic nature of the condition. In the following case this association was definite.

D. R.—A girl of eight years had been complaining of attacks of headache, usually left-sided, since two years of age. The headaches occurred regularly every three

to three and one-half weeks. They were characterized by nausea and vomiting for one day and an associated cough which lasted four to five days. There was usually slight fever and inconstant abdominal pain for a few days during each attack. Occasionally the cough seemed wheezy but there was no suspicion of asthma. There was no history of constipation. The child had never had hives, or eczema, nor was there a definite family history of allergy. The examination revealed that the adenoids and tonsils had been removed, the nose and throat were negative. There were numerous dry squeaky rales over the entire chest with definite prolongation of expiration. The neurological examination and fundus examination were negative. Skin tests were positive for cheese, lactalbumin, almond, tuna-fish, lamb, chicken feathers, horse dander, and hog hair. Milk, cheese and other foods were eliminated from the diet. The epidermals involved were also interdicted. The child has been on this regime for nine weeks, and has been free of symptoms during this time. It is yet too soon to state dogmatically that all the etiological factors have been discovered. That this case, however, is dependent on allergy seems incontrovertible.

Epilepsy is a term used to denote convulsions of unknown origin. In searching for an etiological factor in this large residue of unsolved cases, one should consider allergy as a possibility. The percentage of epileptics that can be shown to be allergic is undoubtedly very small. The following case has been under our care at the University Hospital at Ann Arbor.

Case G.—This was a three-year-old male child who had had convulsions for about two years. There was a paternal history of asthma. The attacks occurred a number of times a week and were typical epileptic-form in type. The entire examination including neurological and serological tests were negative. Sensitization tests showed a very strong reaction to cat hair. It was then discovered that there was a cat in close contact with the child. Removal of the cat from the child's environment resulted in cessation of the attacks.

It is not the intention of this paper to insist that all cases of so-called epilepsy can be solved on an allergic basis. This position would be untenable as one that would advocate that all cases of abdominal pain are allergic. Over-enthusiasm for any procedure in medicine is as decidedly against progress, as is under-enthusiasm.

In a given case, however, presenting obscure symptoms, suspicion of an allergic etiological factor is warranted, especially

if there is a family history of allergy or a personal history of definite allergic phenomena.

A COMPARATIVE STUDY OF COMPLETE AND SUBTOTAL HYSTERECTOMY*

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During the past few years there has been an increasing tendency among surgeons—especially gynecologists—to advocate total hysterectomy in benign conditions. The end results seem to be better and the mortality, in the hands of those who are accustomed to the operation, is not any greater.

Owing to the ease with which the average supra-cervical hysterectomy can be done, the procedure has been routine with some surgeons who seldom consider the type of the operation to be selected by the individual study of the character of the tumor, the condition of the cervix, and the age of the patient. The subtotal operation is therefore done in those cases in which total removal of the cervix should be done.

The cervix, especially that of the parous woman, is often a source of a great deal of trouble and certainly has no function after the uterus has been removed. An infected, lacerated cervix keeps up a persistent leucorrheal discharge and because of the extension of the infection through the lymphatics in the broad and uterosacral ligaments, the parametric tissues become thickened, sensitive, and painful. This is often responsible for a certain amount of lumbosacral backache and bearing down sensation. In such cases there is also the possibility that the cervicitis may be a focus of infection in other parts of the body, as pointed out by Curtis, Sturmdorff, and others.

It is generally believed that the presence of carcinoma in the stump of the cervix does not warrant a panhysterectomy in itself. But Polak¹ has stated that there is a real danger, and collected 256 cases of carcinoma of the cervix after subtotal hysterectomy. He quotes Schollaender, Spencer, and Noble as having shown by routine serial section of the uteri in more than 900 total hysterectomies that carcinoma of the cervix actually coexists in more than 2% of all fibroid tumors of the uterus. During the past year we have seen three cases of carcinoma in the cervical stump. Two had been operated over five years previously; one only six months before.

Recently we performed a complete hys-

terectomy on a nullipara of 38 for multiple fibroids. The cervix seemed to be perfectly normal but the routine pathological examination showed an early squamous cell carcinoma.

The reasons commonly given for preferring supravaginal hysterectomy are:

1. Ease of operation.
2. It has a lower morbidity and mortality.
3. It does not shorten the vagina.
4. There is less danger of peritonitis, injury to the bladder and sigmoid.

(1) For the occasional operator the subtotal operation should be the operation of choice. However, the ease with which either operation is done is a purely technical matter and the ease of performance and the time consumed depends entirely on the experience of the surgeon. We have felt that the technique which we have used in the complete operation does not take very much time and is very little if any more difficult than the supravaginal.

(2) Statistics vary a great deal regarding the morbidity and mortality but it is generally stated that the mortality in the hands of experienced operators is not more than 2% in either operation. The mortality in a given operation is quite different in one hospital from that of another, as was disclosed by the late J. G. Clark who brought out the fact that the mortality rate in the supravaginal hysterectomy in a good clinic in expert hands, ran a trifle over 1%, while over the country as a whole—so far as statistics showed—it ran a trifle over 5%. In the complete operation the country over it probably ran 8%. The mortality from either operation should be limited to accidental causes: pulmonary embolism being responsible in about 50% of the deaths; peritonitis, and

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pneumonia being important other causes. Polak¹ states that the morbidity is lower in the complete operation while the mortality is 0.5% higher in the complete operation than the supra-cervical. He has a mortality of 2% for the total operation and 1.5% for the subtotal. In the Mayo clinic² in 1926, 229 cases of total abdominal hysterectomy were performed with three deaths or a mortality of 1.3%. During the same year 217 subtotal hysterectomies were performed with a mortality of 1.8%.

I have reviewed 628 hysterectomies performed at the Henry Ford hospital. These included all types of cases—cancer, inflammatory cases, and fibroids. Of this number complete hysterectomy was performed 476 times, and subtotal hysterectomy, 122 times. There were a total of 18 deaths, or a mortality of 2.9%. Fourteen deaths, or 2.9% were among the complete hysterectomies, and 4, or 3.2% were among the supravaginal.

During the past year we have done 199 hysterectomies with only one death or a mortality of 0.5%; of this number only 30 were the subtotal operation.

Our death rate until the past year was 4% for both the subtotal and the complete. This high mortality probably has several factors. Some radical panhysterectomies were performed in the 429 cases done previous to this year. We have discarded this operation.

The mortality among the supravaginal hysterectomies would undoubtedly be lower if we had been doing the operation more frequently and had been using our present methods of pre-operative and post-operative care. Besides it has often been done in the poor risks.

The average number of days in the hospital were the same for the two types of operations. The complications were slightly greater in the complete hysterectomy than in the incomplete. Complications occurred in 7% of the complete hysterectomies and 5% of the incomplete. Under complications I have included pneumonia, pulmonary embolism, thrombophlebitis, and wound infections.

During the past year there were only seven complications. One case of pulmonary embolism, two pneumonia, two wound infections, two thrombophlebitis—or a morbidity rate of 3.5%.

The highest post-operative temperature in the total operation in 81% of the cases was 101° or lower. In 79% of the cases this occurred the second day or before. The

temperature had returned to normal in 10 days in 75% of the cases.

Eighty-six per cent of the cases of subtotal hysterectomy had a temperature below 101°. This occurred the second day or before in 81%; and in 83% of the cases the temperature had returned to normal in 10 days.

This would tend to indicate that the morbidity is slightly greater in the total operation.

(3) The vagina should not be materially shortened. I do not recall a single complaint of dyspareunia or of the vagina being too short in the 476 cases of complete hysterectomy performed. We think this depends on the type of operation performed.

It has been stated that by retaining the cervical stump we leave the key stone of the arch and thus maintain the conformity of the vaginal vault. Therefore we are less likely to get a prolapse of the vaginal wall. Pelvic floor repair is usually neglected when a hysterectomy is to be done—as a result, inversion of the vaginal wall is liable to happen in subtotal as well as total operations.

Repair of the pelvic floor is just as important with either operation, if there have been extensive lacerations of the perineal body.

(4) There does not seem to be any greater danger of peritonitis, or injury to the bladder or sigmoid. We have only had one case of peritonitis. Cystitis seems to have complicated the subtotal operation as frequently as the total. Peritonitis should not occur more frequently from cutting across the vault of the vagina instead of the stump of the cervix. When doing a subtotal operation we often cut through infected cervical glands, which certainly increase the possibility of peritonitis. It is often stated that in performing the complete operation we are cutting through a septic cavity. The vagina is more accessible and can be more easily sterilized than the cervix.

DISCUSSION

The end results and mortality in the two types of operations have seemed to us to justify—except in a very few cases—the total hysterectomy. We have not had the frequent complaints of leucorrhea, backache, and bearing down sensation so common after supravaginal hysterectomy.

During the past year our mortality has been unusually low—only one-half of 1%. As stated previously, one factor is due to discarding the radical panhysterectomy.

Another is probably due to the fact that all the operations except seven were performed by two of us, using exactly the same technic.

Anesthesia has probably been another factor. Most of the recent cases have had ethylene and ether, a few ethylene alone, and only about 20% have had ether alone. Spinal anesthesia has been used and found satisfactory for some cases. Choice of anesthesia for the individual case certainly lowers the morbidity and mortality rate.

The freer use of transfusions before and after operation, as well as the almost routine use of 5% glucose saline post-operatively has, it is believed, reduced the mortality rate.

The operation we use follows very closely that described by Baldwin³ in 1917.

The pelvic cleanup is done while the patient is under the anesthetic. The vagina and cervix are thoroughly cleansed with green soap and water followed by alcohol. The abdomen is opened by the usual mid-line incision. After exploration of the abdomen the patient is placed in the Trendelenburg position and the intestines walled off with gauze. The uterus is seized by placing clamps on both broad ligaments close to the uterus at the horn so as to include the ovarian vessels and the uterine artery at that point. The uterus is pulled up in order to bring the cervix as close to the abdominal wall as possible. A clamp is placed on the infundibulopelvic ligament, just outside the ovary, if this is to be removed. This is divided and ligated.

The round ligaments are cut close to the uterus, and the broad ligaments are incised down to and exposing the uterine vessels. The peritoneum anteriorly and posteriorly is freed and dissected downward carrying with it in front the bladder and behind the sacro-uterine ligaments. The uterine vessels are then ligated. Four ligatures have controlled all hemorrhage. The uterus can usually be removed without applying any more hemostats or ligatures. There is no hemorrhage from the round ligaments.

The vagina is freed with the scissors and is opened just below the attachment of the cervix. A Kocher's hemostat grasps each lateral wall of the vagina after it has been incised and the whole uterus with a narrow cuff of vaginal wall is removed. A sponge is inserted into the vagina—this gives some support for 24 hours.

Closure is then done. The round ligaments are brought over and fixed to the

lateral vaginal walls, and the ligature tied with the knot inside the vaginal canal.

A purse string suture is passed in and out in the submucosa around the vagina, not penetrating the mucus membrane, and under each round ligament, including the sacro-uterine ligament. The purse-string suture is tied and the edges of the vagina pushed in. This closes the vagina and the round, broad, and sacro-uterine ligaments are brought together in close apposition.

The peritoneum in the pelvis is brought together with a continuous suture commencing above the stump of the ovarian vessels on one side and continuing around to the corresponding point on the opposite side. The pelvic floor is left perfectly smooth without any raw areas.

DISCUSSION

Dr. Frank C. Witter (Detroit): It is a question of whether we do a total or a subtotal hysterectomy. I think that is a good deal of a personal question. It is obvious that the complete hysterectomy is more difficult than the supra-vaginal. The observations I have made in the last few years and the frequent occurrence of cancer in the retained stump have led me to discard the supra-vaginal type of hysterectomy entirely. I never do it any more regardless of the age of the patient. I do a total hysterectomy in almost every instance.

The speaker has already stated that the remaining stump is of no particular consequence. We used to be taught that there was some use for it. We used to be taught that the stump was almost necessary to act as a keystone of the arch to prevent the prolapse after these procedures. I have, like others perhaps, had prolapse of the stump left in. I have had no more cases of prolapse with the stump out than I did before. It all depends a great deal on the method that is used to anchor your round ligaments and the after care of the patient.

As to the dangers incident to the operation, if preliminary preparation of the vaginal and cervical tract is made before operation, cauterization of the cervix, and treatment of the visible tract with cleansing procedures, proper attention to the welfare of the patient before operation, administration of plenty of liquid, attention to the blood pressure and so forth, it has been my observation that the mortality rate in the total hysterectomy is almost, or practically, as low as it is in the subtotal.

For that reason I see no particular reason for leaving the cervix in, in view of the cases which I presented a little while ago where there were a number of recurrences in the stump. In one case where the stump had been practically obliterated—that is, all of the mucous lining of the cervix was obliterated—a cancer occurred in what little of the squamous epithelium was left. It is a question whether the mortality in the subtotal being less will offset the possibility or the mortality rate in the cases where we have a carcinoma recurring in the stump that remains behind.

Dr. Harry M. Nelson (Detroit): I appreciate Dr. Witter's discussion. We have never found it necessary to treat the vagina or the cervix, that is, previous to the operation. We have simply

made a cleanup at the time of the operation. We have never had peritonitis set in except in one case.

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FIBROMA OF THE NARES (NASAL POLYPS)*

NEIL BENTLEY, M. D., F. A. C. S.

DETROIT, MICHIGAN

The nasal polyps have been a subject of controversy for many years. There is still considerable discussion as to whether the nasal polyp is a true neoplasm or not.

"Although there has been much debate over the relation of the nasal polyp to true neoplasm, here as elsewhere it is impossible to draw a sharp line between the products of chronic inflammation and tumor processes, so that there is some justification in the current usage by rhinologists of the term "Fibroma" for these common growths. Nevertheless, it is quite clear that in the nares more than in any other mucous membrane the polypoid outgrowths of chronic inflammation lack the histological features of an autonomous new growth. In fact, as Chiari claimed in 1887, many of them consist of nothing more than localized edematous areas of mucous membrane rendered protuberant by mechanical means, but without other changes. Once established, however, these masses are subject to various grades of hyperplasia of their elements which render them not only persistent, but often progressive, and in such cases there may be considerable change in the appearance and proportions of various cells. Since this change is seldom pronounced, the groups of nasal polyps must stand among the purest examples of pseudoneoplasms of inflammatory origin." (From Ewing's, "Neoplastic Diseases.")

Nasal polyps are probably always preceded by chronic rhinitis and Tissier traces an unbroken series of cases from simple chronic rhinitis through hyperplastic rhinitis to polypoid inflammatory outgrowths.

Zarniko describes three types of polyp:

A.—Fibroma edematodes simple.

B.—Adeno fibroma edematodes, where new gland formation is prominent.

C.—Fibroma edematodes cysticum. Most of the larger polyps owe their bulk to the formation of cysts which arise from distended alveoli lined with overgrowing cells. Their contents vary greatly from serous fluid to pure pus.

The polyps rarely become malignant. They may be explained as a result of chronic hyperplastic inflammation or the irritation of retained secretions and form a slowly progressing pseudoneoplasm. Similar changes may take place in the mucous membrane of the middle turbinate.

Opinions have varied during the years as to the relationship between nasal polyps

and sinus infection. Many of the early authorities regarded the presence of nasal polyps as pathognomic of sinusitis. On the contrary other surgeons have regarded the sinus infection as merely an end result of the presence of polyps.

Necropsy findings by Zuckerkandl and Wertheim have established several cases of nasal polyp where the nasal sinuses were perfectly normal.

Clinically I have met several cases, although a small minority, which I could find no evidence of sinus infection and where the simple removal of the polyp resulted in a complete cure that has lasted over a period of years. These cases are of the single pedunculated variety.

Then there are those cases where we find multiple polyps without any demonstrable evidence of suppuration. These cases remain cured after operation followed by rather simple treatment.

As a result of this clinical evidence supported by the autopsy findings of such men as Zuckerlandl I feel we may safely conclude that nasal polyps are not absolute proof of the presence of a sinus infection. You may have nasal polyps without any pathology in the sinuses, although this occurs in the minority of cases. Clinically, however, we do usually find polyps associated with infection of the nasal sinuses. Frequently the X-ray corroborated by clinical findings demonstrates the presence of a pansinusitis.

Nasal polyps are seldom found in the frontal or sphenoid sinuses. When they are found in these cavities they are usually limited to the sinuses in which they originate, i. e. they do not protrude into the nose. On the contrary they are most frequently found in the ethmoid labyrinth, the antrum being the second most common site. Into

* Read before the Ophthalmological Club of Detroit.

both of these sinuses the polyp may often be traced from the nose.

How would a polyp under the middle turbinate near the opening of the anterior group of sinuses affect a normal sinus? Certainly in the presence of an acute cold it would materially affect drainage. Depending upon its position it could easily tend to assist the flow of secretions from an infected sinus into the ethmoid or antrum. If located advantageously it would tend to prolong any simple sinus infection so that in time a chronic sinus would result. This chronic irritating discharge would certainly not improve the condition of the polyp. On the contrary I think we might expect "bigger and better polyps."

I think we may affirm that the presence of polyps in the region of the middle turbinates may and frequently does result in a sinus infection. I think we have all seen cases of polyposis which have continued for years with no evidence of sinus infection suddenly become infected and result in a very severe suppuration of the nasal sinuses.

As to the problem of whether the sinus infection usually causes the polyposis we are still somewhat in the dark. There seems to be some factor not yet known which starts the polyp growing. The infected sinus may act as a stimulant to this growth even in those cases where the sinus is secondarily infected.

The nasal polyp occurs in only a small percentage of the cases of chronic sinus infection. We see many sinus cases that have been running for years, yet with no tendency to even polypoid changes in the membrane of the middle turbinate.

A factor that favors polyposis of the ethmoid labyrinth is that in this location the mucous membrane is much more delicate than in any other part of the nose. The stroma is much more loose so that edematous infiltrations of the mucous membrane more readily occur.

Then there is that group of cases where there is a hyperplastic inflammation of the lining of the maxillary antrum, which will show cloudy antri on X-ray plates. Suppuration may be absent, only the X-ray diagnosing polyps or hyperplastic inflammation in the sinus. The nose is free of polyps or any clinical suppuration. However, I have always refrained from opening such an antrum. I feel that the hyperplastic inflammation of the antral mucous membrane, even with the presence of polyps, is not menacing the health of the

patient. Moreover, I always have a sneaking suspicion that the X-ray interpretation may be faulty. The X-ray has not been 100 per cent correct in my experience.

Such cases should be kept under observation and when suppuration develops, or when polyps push their way through the osteum into the nose, suitable treatment should be instituted.

In the large majority of cases of polyposis and in practically all the inveterate cases, the nasal sinuses are infected. There is a strong tendency to the development of a pansinusitis. However, the most frequent origin is in the ethmoid labyrinth, the second choice is the maxillary antrum.

While polyps may cause a sinus infection we can not say positively that an infected sinus can originate a polyp. We can be rather sure that a chronic sinus can irritate and render persistent a polyp once started. Hence, it is probably that we have here a vicious cycle the polyp often causing the infection of the sinus, which in turn irritates the polyp, causing it to take on a more persistent growth.

Polyposis may occur within the ethmoid cells. They are then quite limited in size, but when the overlying bone is removed, then these small polyps expand and soon push their way down into the nose.

I have noted, too, several cases where polyps originated within cells located in the body of the middle turbinate. These cells are ethmoid cells which have grown into the body of the middle turbinate.

I think we may sum up the status of the controversial polyp in these words:

A—The nasal polyp may be solitary and without sinus infection.

B—The nasal polyp may multiply and be without sinus infection.

C—The nasal polyp may become a mechanical factor in causing a sinus infection.

D—In the majority of cases the nasal polyp is associated with a chronic sinus infection; unless the chronic sinus infection be cured, the polyp will invariably return.

TREATMENT

All cases of nasal polyps should be thoroughly examined. Sinus infections are so common that a complete examination of the sinuses should be made. I transilluminate all cases. Where expense is not important I ray all cases. Where the cost of the X-ray looms larger I may operate the polyps and treat the patient locally for a short time and see if recovery is going to

be prompt. When the case becomes persistent the X-ray is made.

In all cases where the antrums are cloudy on transillumination the teeth must be rayed and while you are at it I insist upon all the teeth being X-rayed. Any dental pathology must be corrected. Quite a definite percentage of the infected antrums show dental caries.

The polyp operation is performed in my office under 10 per cent cocain and adrenalin. I like the preliminary use of alonal or some other barbituric acid preparation. It definitely decreases the toxicity of the cocaine and is a sedative. While I perform some operations in the hospital the patients taken care of in my office seem to mind the operation less.

The single pedunculated polyp should always be removed although I am aware that some oppose this view. It is a constant menace to the health of the sinuses and in the natural course of events will grow to a size to obstruct breathing. I have frequently seen cases where operation was advised when free of symptoms, come in months or years later with well developed sinus infection. For this reason I always advise operation.

I practice exulsion of the polyp. The main body should be grasped with a ring type forcep and given a twisting jerk or you may slip a snare over the main body of the polyp, tighten the wire till there is no danger of the polyp slipping through it and then evulse it with a quick jerk. Often small particles of the underlying bone will come out with the polyp. This is desirable. One must avoid accidentally getting the wire over the end of the middle turbinate and then jerking off the entire turbinate. This might result fatally in the presence of suppuration. However, this accident would be very unlikely to occur in the hands of an experienced operator. The flat polyp must be removed by one of the numerous punch forceps. The underlying mucous membrane must be removed down to the bone; this also applies to the remnants of the large polyp which doesn't always completely evulse. I frequently curet the underlying bone.

The after care is very important. There should be no high packing placed in the nose. I do place a small piece of cotton in the vestibule which the patient is instructed to remove when he reaches home.

I never allow the patient to go home two or three times a week when the mucous membrane is cleared of secretions and painted with 5 per cent silver nitrate. The

applicator is often allowed to remain in contact with the under side of the middle turbinate for two or three minutes. This treatment will result in a cure of all the simple cases. However, I instruct all patients that they must return every 1-3 months for inspection. Here I find the Holme's Nasopharyngoscope is invaluable. With it I can often see mucous or pus coming down from under the posterior end of the middle turbinate or I may see small polyps reforming. In many of these cases anterior rhinoscopy will be negative. Such a case is not cured. Further treatment or operation is indicated.

In all the persistent cases of polyposis I have found the ethmoid or antrum or both infected. To be sure the frontal or sphenoid are often involved as well. Yet I feel that we have here a secondary infection, the ethmoid or antrum being the key stone in this vicious cycle.

In all such cases unless the underlying sinus infection is eradicated polyps will continue to reform. However, I am much opposed to an immediate radical operation on the diseased area. A complete eviceration of the middle turbinate and the ethmoid labyrinth will be followed by a permanent dryness and a sensation of stuffiness.

My own procedure is to completely remove all visible polyps. This may require several sittings in inveterate cases, with a lapse of 2-4 weeks between sittings. Silver nitrate or argyrol tampons are used between operative attacks to reduce the inflammation and discharge. The tampons must be placed at the spot of origin of the polyps. When the polyps have been removed the probe is used to follow up the flow of pus and explore the sinuses. The probe may show diseased ethmoid cells. The Hajek hook is then inserted into the opening noted by the probe and the osteum enlarged. The X-ray will be helpful in indicating how extensively the ethmoid is diseased. However, I depend more upon the amount of discharge and the use of the probe and hook. I feel it is safer to assume that the disease is limited to the cells around the opening in which pus is found. In this way we avoid infecting deeper cells not yet involved.

Where we see pus coming from further back in the ethmoid the opening must be more extensive. The fundamental principal of all sinus surgery is free continuous drainage.

As a rule I do not remove the membrane lining the ethmoid at the first operation.

Frequently a membrane that looks badly diseased will clear up under drainage and simple treatment. Later when it is found that the membrane does not clear up it may need to be thoroughly removed. A suitable grasping forcep is used. Flat hypertrophies are cut and torn off with the hook or currett.

At first every effort is made to leave the middle turbinate untouched if it is of normal size, as it serves as a guide in all future operating as well as conserving its normal function.

However, if the case proves obstinate the anterior end of the middle turbinate must be removed. At times one must extenuate the ethmoid labyrinth quite extensively.

Severe cases require partial resection of the bulla ethmoidalis and the uncinate process as well.

Small wonder that some surgeons advocate the complete exenteration of the ethmoid and removal of the middle turbinate under general anesthesia. Nevertheless, I am opposed to such radical operating. I greatly prefer the slower process of proceeding step by step, eradicating only what we see definitely diseased, followed by treatment between operative attacks. In this way many cases that would seem at first to require radical operating, clear up with much less surgery, with a more normal appearing and functioning nose. To be sure the step-at-a-time method may extend over many months in the inveterate cases. Nevertheless, the ultimate result is so much more satisfactory in freedom from dryness and sense of stuffiness that I feel we are justified in the slower method.

I fear the antrum is often overlooked in these obstinate cases. If cloudy or transillumination or X-ray it should be irrigated to see if it contains pus. It is better yet to explore it with the antroscope. A small

opening can be made through the canine fossa or it may be explored through an opening made under the inferior turbinate as described by Doctors Wilson and Hughes a few months ago. If shown to contain pus or polyps adequate treatment must be instituted. First I usually try simple drainage through a fairly large opening in the inferior meatus using irrigation or suction followed by injection of silver nitrate 1-2 per cent. If a month or two of treatments show no improvement a radical antrum operation is done.

It is important to block off the different sinuses to be certain from just which sinus the discharge is coming. I fear this is an old method of diagnosis that we are prone to overlook. In the pansinusitis cases it is especially important to do this as all the sinuses will be cloudy on the plate. If after washing out the antrum pus reappears in the nose in short order then we know that other sinuses are still active. By placing tampons at the opening of the sphenoid and frontal each in turn can be blocked off and in this way we find which of the sinuses are still active.

In all persistent cases of polyposis some sinus is infected and the sinus infection must be cured before we may hope to stop the polyp reforming. Time forbids going further into the subject of sinus surgery.

I have no experience with any of the forms of cautery of these cases. Hajek strongly condemns their use. I have never used radium. Studying reports of its use in polyps has not favorably impressed me, but I am anxious to know if any of you have used it. I think all of these cases should be examined from the viewpoint of allergy.

However, in my hands silver nitrate and the silver nucleinate tampons properly placed have been invaluable in clearing up these conditions.

SERUM TREATMENT IN TYPE I LOBAR PNEUMONIA

The evidence based on experimental studies, made by Rufus Cole, New York, that immune horse serum should be useful in the treatment of pneumonia due to pneumococcus type I, is supported by the clinical experience of the Hospital of the Rockefeller Institute in which, among 431 cases, only forty-four died. A review of the fatal cases indicates that if serum therapy was not effective in this group of cases no other form of specific treatment would likely be of much greater value. It is possible that more prompt diagnosis of the type of infecting organism and more regular and persistent administration of serum might have saved a few more patients. The present method of treatment with large doses of serum is not ideal. Various methods have

been used to concentrate the immune substances contained in the serum. With concentrated serums, accurate methods of standardization are demanded. The methods now being used present certain difficulties, and it is seriously questioned whether by these methods a picture of the actual effectiveness of the product can be obtained. It is doubtful whether the small doses of concentrated serum which have been recommended can have any effect on the mortality from pneumonia. Unless very large doses of concentrated serum are employed, or unless some more accurate method of standardization is adopted, it is better to continue to treat cases of type I pneumonia with good, whole serum in large doses.—Journal A. M. A.

NEW STRATEGY IN THE CAMPAIGN AGAINST CONSUMPTION*

EDWIN E. SLOSSON, Ph. D.**

Late Director, Science Service, Washington

The turning point in the Great War was when the allied forces fighting the Germans joined in a single co-ordinated plan of campaign under unified control by the appointment of General Foch, as commander-in-chief of all the armies. The turning point in a greater war may likewise date from the day when the allied forces fighting the germ of tuberculosis joined in a single co-ordinated plan of campaign under unified control in charge of the Research Committee of the National Tuberculosis Association. This means a revolution of the major strategy in the conquest of disease, the adoption of the policy of siege tactics and trench warfare on a large scale instead of relying upon accidental advances and the casual attacks of individual investigators as in former times. Progress under the new plan may be slow but is sure, for each foot of ground gained in advances into unknown territory is securely held. A small army of experts has volunteered service in this field, chemists, bacteriologists, druggists, physiologists and physicians, more than a hundred of them, working in various parts of the country on the common problem.

The first objective of the new campaign is the discovery of the cause of the disease. After that is attained the way will be opened for the discovery of a cure for the disease. It has long been known that tuberculosis is due to certain plant-like parasites, bacilli, or in plain English "little rods," which find a lodgment in the cells in the lungs or other parts of the body and there form nests or colonies, in the shape of little nodules, the characteristic "tubercles." But we have got to know more about these bacilli before we can fight them effectively. How does it happen that these little creatures have the power to pull down a strong, young man? Why is it that a little local colony of these microscopic invaders can set up fevers and sweats in the entire frame and cause him to weaken and waste away? Do they poison him or what? Do the dead germs or the live ones do the damage? What are they made of? What do they give off while living? What do they leave when dead?

Obviously the first step in the investigation was to set the chemists to analyzing the tubercular bugs. But the chemists demanded that they be supplied with the material to be analyzed by the pound, even by the hundred pounds in the long run. So two of the leading manufacturers of medicines undertook to cultivate the creatures that they proposed to destroy. Fortunately it was found that the tuberculosis bacillus, unlike many microbes, could be made to grow outside of animals and without any animal matter. They would thrive in glass flasks filled with nutrients of known composition, made up of pure chemicals. Consequently any new substances discovered in the dead and dried germs, or in the solutions where they had lived, must be such as have been formed by the creatures themselves and such as they release inside the body. In this mass of crude material then we may expect to find the products that exert the deleterious effect upon the human system.

Although the chemical work may be said barely to have begun, yet it has already resulted in startling discoveries. Two, in especial, are altogether unexpected and without precedent. There has been found, among the toxic constituents of the tubercular germs two that belong to two of our most familiar food families; an unknown fat that may form tubercles and an unknown sugar that may be fatal under certain circumstances. All the fats and sugars known hitherto are nutritious and innocuous. Not a disreputable member among the scores of fats and sugars found in nature or the hundreds that can be formed by the chemist.

But the newly found fat when injected into an animal will form the same sort of tubercles as are produced by the living germs. This fat is, of course, devoid of life; in fact has been freed from all other substances in the complicated chemical process of purification. Probably when its structure has been worked out it will be found possible to make it artificially from

* Contributed by Science Service.

**Dr. Edwin E. Slosson, Director of Science Service, died at his home, Washington, D. C., October 15th. He had been suffering from cardiac trouble for some time, and an acute attack about a week previously hastened his end. Dr. Slosson was born in Albany, Kansas, in 1865; received the Ph. D. degree in 1902 from the University of Chicago. The most successful of Dr. Slosson's books has been "Creative Chemistry", which for a decade has held its own among the best sellers. Among his other works are "Easy Lessons in Einstein", "Science Remaking the World", "Keeping Up With Science", "Chats in Science", "Sermons of a Chemist", "Great American Universities", "Plots and Personalities", "The Spirit of American Education", and "Six Major Prophets". During his eight years as director of Science Service he trained a group of young writers in the ways of popular presentation of science, and these will now carry on his work. For the past two years, as our readers know, we have made use of this service.

mineral matter in the laboratory. It contains the same elements as the common fats and it seems similar in constitution to the ordinary fatty acids of foods, such for instance as stearic acid. Yet it is capable of producing all by itself the same little nodules that are characteristic of the disease and have hitherto been found only in the colonies of the living bacilli. The first effect of the injection of this fatty fraction is to stimulate the growth of the particular kind of blood cells that the tubercular bug lives in, and the abnormal multiplication of these cells upsets the balance of the body cells.

The other discovery is still more unexpected. This is a strange sugar which, when injected into the blood of a tuberculous animal, will kill it quickly. Yet it is harmless to an uninfected animal. Somehow the sugar knows. It can make a diagnosis like a doctor—or better than some. Yet the sugar is a white, harmless looking powder, sort of sweetish like the others, made of the same elements, so it is peculiar that it should prove to have poisonous properties. It seems to act directly on the adrenal glands, causing sweats and fevers, for the secretion of the adrenals controls the temperature reaction of the body. We may surmise in advance of evidence that the familiar symptoms of the disease and its final fatal effects may be due, in part at least, to the constant leaking into the blood of this pernicious product from the tubercular germs as they die and decompose inside the cells of the afflicted individual and so slowly poisons him.

This is not the only case of sugar found in disease germs, for recently some unknown sugars have been extracted from pneumonia material.

The healthy person can for a time withstand the pernicious influences emanating

from the infected area, but as these increase and his resistance weakens, he fails to react as at first and the rising and falling of his temperature becomes more extreme. We may hope that eventually the chemists will find something that will break down the waste poison of the tubercle bacilli into glucose or other harmless substances.

It is already obvious that the new tactics for the investigation of disease, while at first focussed upon the tuberculosis problem, will throw light upon other diseases and in fact upon the fundamental processes of human physiology. For the three grand classes of components found in these laboratory-raised bacteria, that is, fats, sugars and proteins, are the same as constitute our bodies and our food. But how these three kinds of compounds combine in the body is still a mystery. The chemist has isolated and determined the composition and construction of all the common fats, sugars and proteins. Some of them he even can make synthetically in his laboratory. He can figure out closely just how much of these various ingredients of food are needed for a particular day's work. He can tell, for instance, just how many more foot-pounds a man can lift by adding an ounce of glucose to his ration. The chemist can trace the molecules of glucose through the blood stream till it gets to the muscle where it is needed. But there he loses track of it. He is still much in the dark as to how the protein in the muscle fiber seizes on to the sugar and gets energy out of it and what part is played by the phosphorized fatty acids present. If he can find out how these three substances are hitched up in normal life, he would most likely be able to find out how they get hitched up wrongly in disease and finally how to get correct the blunder.

BLAMES OVERWORKED EMOTIONS FOR DISEASE

Nobody really overworks as far as mind and body go, but we live at such a high emotional tension that we become tired and jaded and require violent stimulation to keep us going. Also, this high emotional tension is the cause of a number of diseases, Dr. Charles P. Emerson of the Indiana University School of Medicine said at a recent meeting of the New York Academy of Medicine.

"Under certain conditions a strong emotion can inflict a physical injury just as truly as can a knife," Dr. Emerson said. "The injurious effect of a long maintained depressing emotion has never, we feel, been appreciated. We endure well the effects of strong emotions, if only their duration is brief or their qualities varied. That the depressing, contractile, paralyzing emotions called fear, apprehension, worry, etc., weigh heavily in

the balance against a patient during the course of an infection has long been suspected but since these phenomena cannot be weighed, measured nor rendered objective, we cannot at this point consider them seriously. The effect of these emotions on the glucose tolerance of a previously well standardized case of diabetes mellitus can, on the other hand, be measured in terms of grams of sugar in the urine, in milligrams of glucose in the blood stream, and of units of insulin necessary to restore the sugar-free condition."

Dr. Emerson urged physicians to consider more the emotional, psychological aspects of disease than has been done in the past. This new phase is just as much a part of regular medicine as are the physical and biochemical aspects with which physicians have long since become familiar.—Science Service.

HEAD GANGLIA AND HEAD PAIN—MODERN METHODS OF TREATMENT

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For several years I have been teaching my class in neuro-physiology at the Detroit College of Medicine and Surgery that pain comes into consciousness in the thalamus and that the conduction fibers for painful impulses are non-medullated or of the sympathetic type.

This idea I find is rather difficult to fix in the mind of the student who is not handicapped by any other notions concerning pain, and when it comes to getting the idea across to the members of the Medical Profession who have a rather definite, if erroneous idea concerning pain sensations and their conduction to the field of consciousness, our task becomes almost hopeless.

That pain comes to consciousness in the thalamus, which is that portion of the cerebrum surrounding the third ventricle, is conclusively proven by both clinical and pathological data. For this evidence I need only refer you to the scholarly work and observations of Holmes and Head of England, and Tilney of this country.

That the conduction paths for pain are over non-medullated or sympathetic fibers is confirmed by the work of such neurological students as Ramon Cajal, DeJérne, Ranson, and there are scores of clinical cases recorded in the literature which corroborate their conclusions.

Pain fibers in the fifth nerve have been demonstrated by Fay and Heuer. Frazier has noted pain over the trigeminal area in ligation of the superior thyroid artery. Reid, after removal of the superior cervical sympathetic in Angina Pectoris, observed an absence of epicritic sense, diminished protopathic, superficial pain reduced, and a marked lowering of the threshold of pressure pain over areas of distribution of the V nerve. There was disturbance of temperature sense and sense of position.

Frazier Experiment: Frazier stimulated the carotid artery before operation; there was a sense of pressure on the gums, sensation like electric shock on the side of the neck and pain in the upper jaw and forehead. After operation there were no painful sensations. Stimulation of the cervical carotid arterial plexus caused pain in the lower jaw. Stimulation of the superior sympathetic ganglion caused pain in the left eye, and stimulation of the superior thyroid artery affected the upper neck and face.

Bryan, Sluder and Green have pointed out that eye pain is transmitted via the spheno-palatine ganglion and not over the ophthalmic division of the V nerve.

Toney of St. Louis, relieved toothache in the lower jaw, due to an infected tooth, by cocainizing the spheno-palatine ganglion.

By ligation of the carotid artery Forio of Leipsig gave relief when an aneurysm of the carotid artery produced glossopharyngeal neuralgia by irritation of the carotid plexus and chorda tympani and petrosal ganglia.

Ryan has controlled pain of Herpes Zoster of the ophthalmic division of the V nerve by injection of the spheno-palatine ganglion. The spheno-palatine ganglion is the sympathetic ganglion of the maxillary division of the V nerve; the ciliary ganglion of the ophthalmic; and the otic of the mandibular.

By cocainizing the ophthalmic nerve in Herpes Zoster, Ryan has relieved pain in the area of distribution of the ophthalmic division of the V nerve, but not in the eye. By applying it to the spheno-palatine ganglion he was able to relieve the eye pain.

For our present discussion the part played by the sympathetic ganglia in the pain mechanism come up for consideration. The sympathetic ganglia are regarded as motor relays in the sympathetic system, but they also serve as points for convergence and divergence of sensory sympathetic fibers, among which are the pain fibers. In fact, we might question the existence of any other sort of sensory fiber in the sympathetic system. Since the ganglia serve as bottle-necks for the pain fibers, they also serve as convenient points of attack in attempts to relieve pain or interrupt its transmission. The only difficulty encountered is to know just where and how the pain fibers which pass through the various ganglia are distributed.

To take time to go into detail concerning

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the distribution of the fibers which pass through the head-ganglia would exceed the limits of this paper. So in order to indicate briefly their distribution, let me summarize very briefly as follows:

1. By head ganglia we mean the following:

1. Superior cervical sympathetic.
2. Spheno-palatine.
3. Otic.
4. Ciliary.
5. Geniculate.
6. Nodosum.
7. Jugular.

We have omitted the Gasserian ganglion because it is essentially a dorsal root ganglion, and the pain fibers distributed in the trigeminal nerve probably enter the nerve by way of other ganglia mentioned, some of which lie in close proximity to and are connected with the trunks of the trigeminal.

II. The sensory fibers passing through the ganglia above mentioned are distributed to or come from various areas of the head, as follows:

The superior cervical sympathetic ganglia distributes fibers by way of the carotid arteries and carotid plexus to the carotid nerves.

- | | | | | |
|---------------------------|---|-----------------------------------------------|---|--------------------------------------------------|
| 1. Carotid nerve | { | Petrosal ganglion of glosso-pharyngeal nerve. | { | Pharyngeal plexus consisting of IX and X nerves. |
| | | Hypoglossal nerve. | | External pharyngeal nerve. |
| 2. Internal carotid nerve | { | Gasserian ganglion. | { | |
| | | Greater superior petrosal nerve. | | |
| | | Cavernous plexus. | | |
| | | Ophthalmic division of V nerve. | | |

BRANCHES OF THE SPHENO-PALATINE GANGLION

- | | | | | |
|----------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Ascending or orbital | { | lining of orbit. | { | |
| | | Lining of ethmoid cells. | | |
| | | Lining of sphenoid cells. | | |
| 2. Internal or nasal (somatic sensory) | { | Lateral posterior superior branch | { | via spheno-palatine foramen—superior and middle turbinate posterior ethmoid cells. |
| | | Medial posterior superior branch | | via spheno-palatine foramen—back part of nasal septum—naso-palatine grooves Vomer to anterior palatine foramen (Cloquet's Ganglion) Anterior part of hard palate. |
| 3. Descending branch | { | Anterior Palatine | { | Somatic sensory from maxillary nerve—pterygopalatine canal, palate, gums of maxilla. |
| | | | | Posterior portion inferior turbinate and part of inferior and middle meatus. |
| | | Posterior or small palatine—Soft palate uvula, tonsil (sensory from glosso palatine). | | |
| | | Middle or external palatine—tonsil and soft palatine. | | |
| 4. Posterior: | | Pharyngeal—upper pharynx, eustachian tube, choanae, lining of the sphenoidal sinus, posterior somatic sensory—maxillary nerve. | | |

BRANCHES OF THE OTIC GANGLION

- Receives branches from (motor) glosso palatine.
- Receives sensory and motor from glosso pharyngeal.
- Receives branches from vidian.
- Receives branches from small superior petrosal.
- Receives branches from plexus on middle meningeal artery.
- Gives branches to sub-maxillary ganglion.
- Gives branches to auriculo temporal nerve.
- Gives branches to recurrent branch of the mandibular nerve.
- Somatic motor to tensor tympanic muscle.
- Somatic motor to tensor veli palatini.
- Somatic sensory to all these muscles.
- (Sympathetic to vessels.)

BRANCHES OF SUB-MAXILLARY GANGLION

- Receives somatic sensory from lingual.
- Receives sympathetic motor via lingual.
- Receives sympathetic motor, glosso palatine via chorda tympani.
- Receives sympathetic motor, facial artery.
- Branches to sub-maxillary gland and Wharton's duct.
- Branches to lingual nerve and sub-lingual gland.
- Branches to mucous membrane of the floor of the mouth.

In the study of the connections you will note that these fibers reach the brain stem and cerebrum by two main routes. (1) By way of the superior cervical sympathetic, and (2) by way of the cranial nerves. A very important point to be remembered about the distribution over the cervical sympathetic is that the fibers leave the ganglion for the head regions by traversing the carotid artery.

With this resume of the distribution of the sympathetic fibers to the head region it becomes immediately apparent that by destroying these ganglia that certain head areas are deprived of pain conduction paths, and in addition to destroying the ganglia the paths may be interrupted by cutting the sympathetic fibers from certain parts.

The methods that have been employed consist of avulsion or excision of the ganglia, ramisectomy or sympathetic neurectomy, alcoholic injection of the ganglia and peri-arteriorrhaphy. Some very pleasing and remarkable results have been obtained by the practice of these measures. They have not only been done for the relief of pain, but also for the relief of glaucoma, exophthalmos, angina pectoris, otosclerosis, facial palsies, etc.

Leriche says that "Neurotomies of the sympathetic are sensory neurotomies and not motor. That section of the sympathetic chain or its branches has the same effect as ablation of its ganglia. That ganglia, being centers of conduction, should not be

sacrificed, if possible, and that every sympathetic neurectomy is followed by the formation of a cicatricial neuroma."

Dr. Seymour and I were the first to report relief in a case of Raynaud's disease, involving the upper extremity, by doing a Ramisectomy. Our results were identical with those obtained in the same patient by doing a Ganglionectomy. We accomplished this result in spite of the fact that a number of neuro-surgeons, including Adson of the Mayo clinic, have claimed that a Ramisectomy in the neck does not produce the same results as a Ramisectomy in the lumbar region.

Personally, I have never been very enthusiastic about the operation of Periarteriorraphy and Ganglionectomy. While some of them are simple, yet they are fraught with a great deal of trauma and sometimes they are accompanied by severe shock. Since alcoholic injection of the ganglia has been extensively practiced and it has been demonstrated that nerve destruction, and particularly in non-medullated elements, accompany alcoholic injection, we decided to try alcoholic injection of the peri-arterial sheath as a substitute for the mutilation of the blood vessel by Periarteriorraphy and also as a substitute for Ramisectomy and Ganglionectomy. So we have employed this method in a small series of six cases and after a period of five months we find that the results obtained are identical with those obtained by other methods. Therefore, we propose the alcoholic injection of the sheath of the internal carotid artery as worthy of trial in the treatment of certain types of head pain. In the use of this method a differential diagnosis as to the source and the distribution of pain is going to prove more essential than the methods practiced at present.

The technic is simple. The carotid sheath is opened, the carotids are exposed and 1-2 c.c. of 95 per cent c.p. ethyl alcohol is injected into the sheath until a ring of dehydrated tissue surrounds the artery. This does not damage the artery, yet it permanently interrupts the sympathetic fibers which transmit painful impulses. It may also be used where vaso-motor changes are desired, and in certain muscle palsies. This is the idea which I desire to present for your consideration.

DISCUSSION

Dr. A. S. Crawford (Detroit): Dr. McClintic suggested yesterday that I say a word. I hesitated at first because I haven't had any particular experience in just this phase of the work

that he is proposing, but I am interested, of course, in the treatment of head pains, particularly connected with the tri-facial, giving alcoholic injections for facial neuralgia, and we have become interested recently in attempts to relieve migraine. Dr. Maloney and I, in our hospital, have been working together on this and the results are not ready yet to be published, but we have found some very interesting things in connection with some of the other cranial nerves and their relationship to migraine and some have been definitely relieved by alcoholic injections, so we are interested in this general subject.

I might say a word in a general way that you all remember that just a few years ago this whole subject was more or less in the air and our treatment was more or less empirical, but during the last few years there has been fresh stimulus given by the revived work of Jonescos, and the sympathetectomy for angina pectoris and more recently for other pain conditions, and we are just in the beginning, I believe, of a new era of more scientific treatment and such work as Dr. McClintic has just suggested is very helpful and useful because it is going to help to lead the way to a more accurate knowledge of the anatomy and physiology.

Of course, we all realize that the physiologists are more or less limited in their experimental work, so it is only going to be by trial and error that we will finally work out the true anatomy of the sympathetic nervous system and I think we who are interested in this sort of work and are trying to do the experimental work should be very careful that we have experiments controlled and done carefully and not simply hit and miss and arbitrarily as so often is done, because you realize that the persons with angina pectoris, for instance, if you review the work done in the sympathetic nervous system, you realize how much each man feels he has something and if he reviews the work of ten years, you see how confusing it is—one man did one thing and got results and another man did the same thing and didn't get results and the same thing applies to this.

I can't quite see how the mechanism is there. It may be true, but I don't see how the sympathetic will act in that way to act as a sort of brake and if you take it off, it gets across to a bilateral revelation. We have to be careful in these observations that a large number are done and they are carefully controlled.

For example, one of the neuro-surgeons had an experience in removing cervical ganglia and he stated it to the other neuro-surgeons at the next meeting and each one jumped on that fellow and said, "We have tried it and it is a darned lie. It is not true."

But I think that it is such work as Dr. McClintic is proposing that is fundamental and important and I think all of us should have closer co-operation between the clinical men and those attempting to carry on the work. They see the work and are trying out the various types of blocking, and some time we will be able to work out the true state of these various intricate nervous systems tied up with the sympathetic nervous systems.

Dr. Emil Amberg (Detroit): In listening to the paper it occurred to me that there is one word there we should not overlook and that is in certain types of patient, which, of course, suggests to us certain types of pain in the head. We can have nothing to do with this kind of surgery

and remain in the dominion of the oto-laryngologist.

The doctor spoke about the cocaineizing of the ganglion. I should like to ask some questions. How does it come that we can relieve toothache by inhalation of mustard oil? It can be done in certain instances. I have tried it myself on some people, but I hesitate to do it now after the war, I have heard so much of the effects of mustard oil on the respiratory tract.

He spoke about the emotional effects of pain. I know someone who has a pain in the dorsal surface of the foot or both feet if he thinks of some terrible accident or somebody hurt or cut. It is purely psychological and emotional. I should like to ask the doctor to explain that.

Concerning migraine, it was very interesting to use the Muck tests in all phases of migraine. If I had known the title of the doctor's paper, I should have looked up the Muck test, which is very essential in diagnosing migraine. If I remember correctly, it is that if you use epinephrin in the nose and branch the surface and then take a probe and slightly touch the surface by carrying the blunt probe over it, you have a white streak for certain number of seconds or minutes, and this does not occur under other conditions. It is very essential in differential diagnosis.

I should certainly like to compliment Dr. McClintic on everything here said. It may not come out the way he thinks, but it opens up a newer era in medicine and again shows that there are means to be exact, which will lead to clinical progress.

Dr. Claire L. Straith (Detroit): I, too, have enjoyed Dr. McClintic's paper very much. I have been rather interested in some of the facial neuralgias myself, particularly Meckel's ganglion, and I have wondered in his opinion what is the best way of injecting. I have found personally that going through the posterior palatine canal with an angular needle about $3\frac{1}{2}$ centimeters long is quite effectual in my hands, rather than by Sluder's method. The first man I have read about who suggested it was the man in England who suggested it in 1914 and reported 12 or 14 cases injected by the posterior palatine canal route.

I know we have personal experiences with these peculiar neuralgias and it is probably hardly worth our while taking them up, but one the other day puzzled me. A man appeared with an acute coryza and a terrific pain in his right antrum region; on transillumination, had a totally dark antrum on that side. His pain was in the posterior portion of the antrum, apparently, and involved apparently his gum tissue, too.

On the first day I saw him I probably made a mistake in feeling that in view of the X-ray and transillumination that he had an antrum involvement, so I opened that and irrigated it and it produced no good effect and apparently got no pus or secretion much of any kind.

The following day he appeared again, stating his pain was more of a sharp, shooting, neuralgic type of pain and those have been his symptoms since then and his pain is altogether localized around the posterior tuberosity of his jaw, not along the buccal nerve as discussed by Silverman, who makes his injection through the cheek, and not in the lower.

I wonder what injection would help him. I injected first as a testing method, novocain around posterior to the tuberosity and relieved the pain somewhat, but I am wondering whether perma-

nent injection of that region or of the ganglia would help the man more.

Dr. Carl Snapp (Grand Rapids): I think this is a most timely subject and I should also like to congratulate Dr. McClintic for bringing it before us at this time. We all, I am sure, have cases right along of pain in the head which baffle us more than any other one thing that we are likely to have to treat in our practice. Patients come with headaches, and these headaches, from the first moment they begin to describe them, one can almost tell they are not sinus headaches, and after continuing the clinical examination, we eliminate the sinuses and other sources.

These pains are, we feel, usually of some ganglionic type. I think it is a subject that is greatly in the dark yet and the procedure Dr. McClintic has presented is certainly sound, or at least sounds like a very logical one and I hope will prove to be all that we expect of it.

Dr. McClintic said when he was speaking that we should not be in a hurry to take up these things and promise the patients too much. I mean to take them up too universally and become too enthusiastic about it.

Sluder's work has proved very successful in his hands, but I don't believe so successful in all of our hands. I have been very much interested in that phase of the work and I have attempted to cocaineize a nasal ganglia in many cases and have had gratifying results, but I have had a lot of failures and we find a lot of those cases which do not respond and which are very unsatisfactory for that kind of treatment, some of these neurotic women, for instance, whose noses are narrow, and when you use an applicator and a little cocaine, they become more or less hysterical and complain of more pain than before and you really can't do much of anything with them, and even after minor surgical procedure to make it more accessible, even though you cocaineize it, it doesn't respond.

You all remember at the A. M. A. meeting a few years ago when Dr. Carlson of Chicago, in trying to explain the reasons for Sluder's wonderful results which he reported at that meeting before our session, said he was unable at that time to offer any explanation.

Dr. McClintic (closing the discussion): In explanation of the results of sympathetic neurectomy on a patient for facial neuralgias, I think the thing most of us fail to do is to interrupt the proper nerve. I also think we might fail in relieving some of the pains in the head after removing the superior sympathetic ganglia because we miss the fibres coming over from the ninth and tenth nerves. The question is whether the pain is being transmitted through the sympathetic or whether from the ninth and tenth nerves and coming up into the head after joining the carotid artery.

It is my contention, that the reason why we haven't always relieved trifacial neuralgia is due to the fact that we only destroyed fibres from the superior cervical sympathetic and did not destroy the ninth and tenth and I wrote this to Frazier in explaining his failures and he accepted my criticism of his conclusions as correct.

If you get the fibres coming from the ninth and tenth nerves and also those from the cervical sympathetic, you get all of them, unless they come out over the seventh, that is the only one left.

Another point to remember is that again we may not relieve trifacial pain by removing the superior cervical ganglion because fibres leave the sympathetic chain before they get to it and pass to the artery lower down and miss the superior cervical ganglion, so you see the loopholes, but if you strip them all off the artery, you are pretty apt to get all of them, but my point is that I object to the stripping of the artery—I don't like it in my own service. Generally surgeons strip the arteries and I know of two cases in which both lost a leg.

Yesterday the surgical section had another paper describing getting these results by the injection of typhoid vaccine into the veins. We tried it and the first man got thrombosis in both legs and he had had trouble with only one, so for that reason I much prefer the injection of the alcohol to doing the operation of periatrorraphy.

Now as to the mustard oil to relieve pain, it is possible it destroys the nerve endings or lowers the sensation of pain. I don't think any of us know how pain is aroused, or what it is that incites the sensations that go to the thalamus and produce pain. To be perfectly honest, I don't attempt to explain it, nor why the individual should have pain in the foot from psychic disturbance.

As to Dr. Straith's question, quite a number have done that and I often question whether you relieve any pain other than that transmitted over the nerve through the canal.

As to Sluder's method, going through the lateral wall of the nose, there is no question you can get through there. It takes force and you

have to go through bone to do it and I have wondered why the head surgeons have not adopted the method of using a curved needle and getting a spheno-palatine ganglia through the space between the cheek and maxilla. I prefer going through the palatine canal. I have done it on the cadaver and in cross sections and studied the relations there and I see no reason why, with a slightly curved needle it could not be done from within the cheek. Have you tried it?

Dr. Straith: I have tried it, but if you get into the canal and go up $3\frac{1}{2}$ centimeters in the canal, you can't miss it, either. I try to do it that way.

Dr. McClintic: Now, the case of the pain—I am disposed to think if he continues injections he might get relief. We had a case the other day. The case is trifacial neuralgia and the man was suffering intense pain for three weeks and it was a typical neuralgia pain and the man, like all of those cases, had his teeth out and didn't get any relief, so I suggested that we inject the nerve, the inferior dental nerve and he went to the dentist to have it done and the dentist didn't understand my instructions and injected the wrong nerve. He injected the mental nerve.

The X-ray was negative, but when he injected the inferior dental nerve, the pain was relieved. It was injected several times and now the man is fairly comfortable. There is a case where the condition is local. There is something in the dental canal of the mandible that is causing the pain in that case.

Another thing, we must differentiate between trifacial neuralgia and glossopharyngeal neuralgia and if you paint the tonsil region with cocaine, you will relieve nasopharyngeal neuralgia. That won't relieve trifacial neuralgia, a nice differential point.

RUSSIAN SCIENTIST, PAVLOV, HONORED

The Soviet Government, honoring the eightieth birthday of the distinguished physiologist Ivan Pavlov, assigned 100,000 roubles (\$50,000) for the re-equipment of his laboratory in Leningrad.

Pavlov is probably the most outspoken critic of Soviet ideas and institutions at liberty within the Soviet Union today. His age and scientific eminence have won him a privileged position not unlike that of Tolstoy in pre-war times, and many stories, some probably apocryphal, circulate regarding vehemently critical and defiant speeches made by him against various measures of the Government. Last year he led the opposition to the admission to the All-Union Academy of Science of a large number of new members, including some prominent Communists, and

achieved the temporary black-balling of three of these candidates. While the "Izvestia" merely reviews Pavlov's scientific career, the "Pravda" offers the following criticism of his political and social views:

"Pavlov's attitude regarding the world and October revolutions as a most regrettable historical fact, his lamentations over the alleged destruction of cultural values by ignorant Communists, his accusations that the ruling party persecutes science, finally, his indignation over the class policy of the party in higher schools and his demonstration during the elections to the Academy of Science—all this clearly characterizes his political physiognomy.—Manchester Guardian.

FATTY DIET CONTROLS EPILEPTIC ATTACKS

Epileptic attacks may be controlled by a diet rich in fats such as cream, butter, mayonnaise, bacon, and oil combined with a reduced quantity of sugars and starchy foods. Reporting on experiments carried on at the Chicago State Hospital, Dr. A. M. P. Saunders stated that of a group of eighty women epileptics thirty-two were much benefitted by the diet. The rest of the patients were those who had some other physical disease or were mental defectives and did not respond. With this diet the fat is only incompletely broken up in the absence of carbohydrates and a large amount of acid is formed during

the digestion. While the process is not completely understood it is thought that this production of acid is the essential thing in obtaining results. The diet must be estimated and adjusted for each individual case and must be under medical supervision during the treatment, Dr. Saunders said, since some patients require only a slight change from the normal diet, and others a much more restricted diet. The patient's co-operation is necessary since, after the epileptic seizures have been brought under control, even so slight a thing as eating a piece of candy may again bring on seizures.—Science Service.

CASE REPORT*

EUGENE A. OSIUS, M. D.**

DETROIT, MICHIGAN

The patient was a 28-year old, married, Italian laborer who entered the hospital December 21, 1926, with a chief complaint of pain and swelling in the calf of the right leg.

On November 11, while at work, patient was taken with a sudden spell of dizziness, and (as he later said), he had a sudden, lancinating pain which radiated down the posterior part of the lower right leg. He left work and went to bed. After the first sharp attack, it became less severe, but was still present, and within three days the patient noticed a swelling just behind the right knee. The pain here became more and more severe and the patient was treated in another hospital for "rheumatism" for two weeks. Upon entry December 21, 1926, he still complained of severe pain in his leg and the swelling was still present and increasing in size. The mass itself was very tender to touch, he stated, and the pain radiated down into the lower leg and foot. The location of the tumor and the discomfort and pain upon any manipulation or movement, had precluded the use of his leg for some time.

There is no record at this time of any sweats, involvement of other joints, sore throat, or fever, which he had noticed subjectively.

He had had "rheumatism" fifteen years ago, of a vague and indefinite character, but had evidently been in bed because of it. While in the army he had been wounded in the precordial region with a bayonet, which wounds drained and discharged for some months. There was no history of any venereal disease. He had been well and working since the war.

The family history was entirely negative, mother having died of cause unknown; father having been killed during the war. The patient's wife was living and well, having had one baby that died at the age of five days, of "bronchitis."

Physical examination at the time of the first entry to this hospital revealed a well developed, poorly nourished, white male, whose right leg is held flexed at the knee, elevated, and is guarded diligently from motion. There was marked tenderness in the right popliteal space, with a definite 6 cm. in diameter, localized swelling of the tissues in this region. They were tense and tender, but neither red nor hot. There was no fluctuation, although a definite pulsation was felt over the entire mass. At this time there was no auscultation of the mass. The patient's temperature was 99.6, pulse 120-100 and respirations 20 per min.

Examination of the head revealed eyes and nose entirely normal, but inspection of the mouth showed teeth in poor condition, with retracted gums, pyorrhea, somewhat foul breath, mucous membranes pale, and tongue coated. The tonsils were of moderate size and imbedded. The

neck displayed no cervical adenitis, but there was a marked venous pulse visible.

Inspection of the chest revealed two large 5-6 cm. long scars over the left side anteriorly and there was marked retraction of the intercostal spaces over the entire precordium with each heart beat. There was no impairment of resonance of lungs and no alteration of breath sounds.

Heart impulse was heaving. Heart measurements were—left border 13 cm., right border 4 cm., from midsternal line, great vessels 6 cm., and mid-clavicular line 8 cm. Sounds were regular, of fair quality, with a definite presystolic rumble and a not-loud systolic murmur, at the P2 area and apex. There was also a definite early, high pitched, diastolic blow at the apex, left sternal border and A2 area. One felt a marked presystolic thrill and P2 was markedly accentuated. Blood pressure 180/0. Abdomen was entirely negative, except that the heart sounds were heard in the inguinal region.

Extremities, except for the above mentioned pathology, were entirely negative. The dorsalis pedis artery was pulsatile both sides and nutrition of both feet was good. There were no petechiae. Urine was entirely negative. Blood Wassermann negative. X-ray of the knee revealed an infiltration of the soft tissues, but no bony changes.

A small diagnostic puncture of the mass in the right popliteal space was made and bright red blood obtained. Diagnosis; Aneurysm of popliteal and posterior tibial arteries, Mitral Stenosis and aortic regurge. Etiology" Rheumatic heart disease.

The patient was seen in consultation by Dr. Max Ballin, who advised several weeks of rest for the establishment of good collateral circulation before operating upon the aneurysm.

The patient was accordingly discharged on the 24th day of December, 1926, and was again reentered the 30th day of December, 1926, at which time the physical findings were practically the same as on the previous entry and with a slightly yellowish tinge to his skin, but no other evidence of possible jaundice. There was not sufficient evidence for the diagnosis of aortic stenosis but mitral stenosis and aortic regurge were present. The spleen was not palpable and no petechiae were noted on January 1, 1927. Temperature 100.0-100.8; Pulse 100-120; Respiration 22.

Before operation on the 5th of January, 1927, an X-ray plate was taken of the patient's chest, with the following report:

"Examination made of this patient's chest reveals multiple shot-like shadows of metallic density on the left side of the chest in the axillary region. There is evidence of considerable irregularity of the anterior third of the shaft of the sixth rib, which had the appearance of the end result of a chronic osteomyelitis process. There is very definite left ventricular enlargement of the heart shadow. The lung field is clear. No evidence of mediastinal tumor shadow. The trachea is in the midline. It is not displaced or constricted." It was thought that there might have been a traumatic etiology for the aneurysm inasmuch as numerous metallic shots were found by X-ray in the region of the chest scars

* From the Surgical Service of Harper Hospital, Detroit, Michigan. Gross specimen photographed by Ruslander. I am indebted to Dr. Harold Fenech for assistance in this case.

** Dr. Eugene A. Osius is a Graduate of the University of Michigan, 1921. Interne Herman Kiefer Hospital, 1921; Massachusetts General Hospital, 1922-1924; Harper Hospital, Jan. 1924-July 1927; One year post-graduate study in Berlin, Budapest and Vienna; Practicing General Surgery, Harper Hospital, Detroit.

above mentioned. None were reported on the knee X-ray plate.

The same day the patient was operated upon with consultant for the aneurysm. A 3-4" longitudinal incision was made over the swelling. There was evidence of leakage of blood at the site of the aneurysm, with the formation of a clot 6x5 cm. The sac of the aneurysm involved the lower part of the popliteal artery, and the beginning of the posterior tibial artery, being three to four cm. in diameter with a very thin wall which was incised and thrombus removed. Because of the size of the aneurysm and general condition of the surrounding tissues and vessels, excision and ligation was performed.

The patient's right foot upon leaving the table was cool and white, and it was felt that collateral circulation probably would not compensate for the loss of the above mentioned arteries. This proved to be true.

January 8, 1927, the lower leg was amputated six inches below the knee joint, a posterior flap being made. Dissection of the amputated leg and incision of the vessels therein, revealed a small blood clot, about the size of a wheat kernel, located 8 to 10 cm. below the line of amputation. This partially occluded the posterior tibial artery as well as one of its smaller branches. Examination of this clot by our pathologist, to whom the history of the case was unfamiliar, revealed "a blood clot undergoing purulent softening, no organization seen, but from autolytic changes should judge it to be about 48 hours old."

The patient recovered nicely from the above operation and except for a slight discharge from the amputation wound, flap healed nicely.

A blood count was taken on February 3, 1927, because of the fact that the patient still appeared to be anemic. This revealed a hemoglobin 60%, white blood cells 12,300, red blood cells 2,270,000 and the differential smear showed polymorphonuclear cells 68%, lymphocytes 28%, large mononuclears 4% and evidence of a secondary anemia in the appearance of the red blood cells. No petechiae were found at any time.

During all of this time the patient ran a somewhat septic type of temperature, seldom going above 99.6, with a pulse in the region of 100 to 110, and we could not rule out nor could we prove a diagnosis of subacute bacterial endocarditis. It was our feeling that this condition was present and that the cardiac side at least could be explained upon that basis. It was thought probable that the patient might also have chronic adhesive pericarditis, because of the marked retraction of the precordium, with each heart beat; this last condition possibly being due to adhesions, resulting from war wounds.

Cases of subacute bacterial endocarditis developing aneurysms in the peripheral vascular system are not at all uncommon. The aneurysm usually starting from an embolus that has its source on one of the valve cusps of the affected heart.

On February 10, the patient suddenly expectorated some red-streaked sputum, which was associated with pain in the left lower chest, increasing on coughing, temperature 99.0, respiration 40, pulse 150, and the appearance of shock and some cyanosis. Physical examination revealed quite fine, moist and crepitant rales, over the lower lobe of the left lung. A tentative diagnosis of lobar pneumonia, or *embolic infarct*, was made.

The patient's condition became rapidly worse, he perspired literally pints of fluid, the fluid collecting in little pools in the various fossae of the skin. Within the next 24 hours there was dullness at the left base with accentuation of the aforementioned signs, and on February 11, the patient died.

Permission for postmortem was obtained and the findings were as follows:

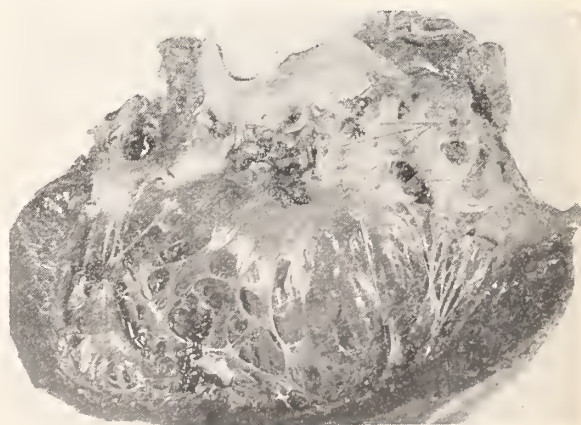
A well developed man of thirty with two healed scars in the region of the left thorax in the anterior axillary line. Right leg amputated 6" below knee.

Abdomen was examined, after the usual incision was made, and revealed slight enlargement of the spleen, half again normal size, with marked congestion but no infarcts. The liver was large and of the nut-meg type with marked congestion. Kidneys were congested, slightly larger than normal, capsule stripping easily, but no infarcts found or emboli seen.

The chief pathology was found in the chest cavity. The lower lobe of the left lung was red, with the evidence of an acute pleuritis; it was consolidated, and upon section, presented the red hepatization stage of a pneumonic process. The rest of the lungs were negative.

The heart was very much enlarged, filling about one-third of the chest cavity; typically corbovinum, and many adhesions between the pericardium and chest wall, but none between the pericardium. The heart lay free within the pericardial sac, which contained considerable clear yellow fluid. Upon section the left ventricle was markedly enlarged and hypertrophied and the right ventricle correspondingly large. In the right ventricle at the tricuspid ring, was a small fibroid nodule, situated at the base of the cusps. The aortic valve showed many large, friable, moss-like vegetations on all cusps, one being a bluish-yellow color, string-like in appearance, and some at least 1-2 cm. long. Some of these vegetations extended down upon the wall of the ventricle itself. The mitral valve showed a similar vegetative process and one mitral cusp showed a definite perforation 1/2 cm. in diameter, together with a very definite sacculated aneurysm of the cusp of the same region, from 1/2-1 cm. in diameter. Upon section and examination, these vegetations were seen to contain numerous gram-positive diplococci of the type resembling pneumococci.

It is to be regretted that a blood culture was



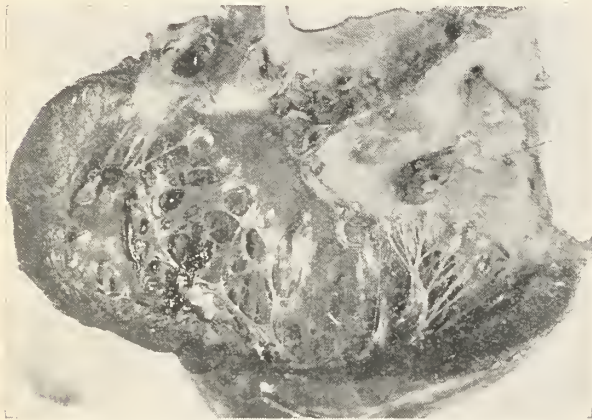
Left ventricle showing aortic valve and freed mitral cusp.

1. Aneurysm and perforation mitral cusp.
4. Numerous vegetations on aortic valves and ventricular wall.

not made during the life of the patient as it might have enabled us to obtain the organism for further cultural studies.

We have felt that this case was worthy of a report in view of the medico-surgical aspect of the same and because of the interesting sequence of events that ensued, as well as the fact that we were able to follow the case to its ultimate

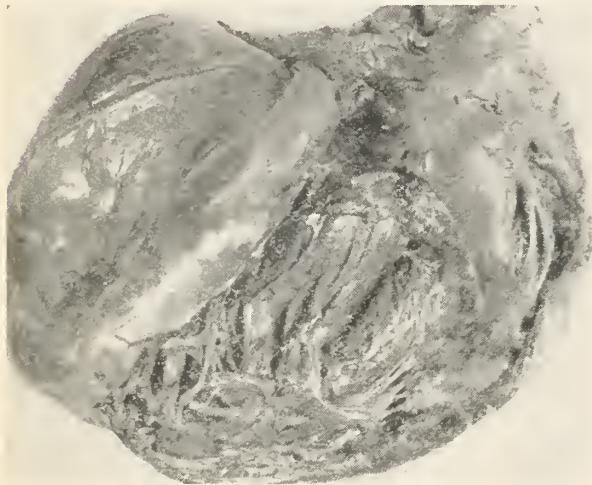
conclusion. It has been instructive from the standpoint of the probability of a case of subacute bacterial endocarditis becoming a surgical condition through the route of one of its complications. While aneurysms in cases of subacute bacterial endocarditis are not uncommon we feel that they are sufficiently rare enough to warrant their being recorded in the current literature.



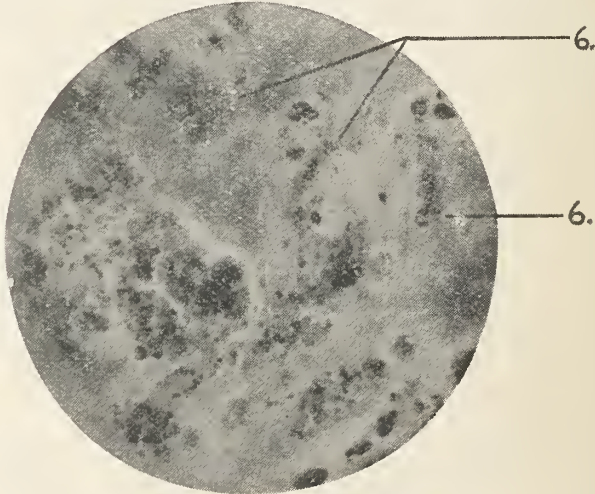
Left ventricle. Mitral cusp reflected to show
1. Aneurysm of mitral cusp of photo "A".
2. Perforation of same.



Low-Power Photomicrograph
5. Colonies of Bacteria seen in section of heart valve



Right ventricle.
7. Fibroid nodule in tricuspid valve region.



Oil-Immersion Photomicrograph
6. Bacteria—(Cocci.)

UNITED STATES HAS LARGEST RATIO OF PHYSICIANS

The bureau of education of the U. S. Department of the Interior has issued a statement on medical education, prepared by Dr. Nathan P. Colwell, Secretary of the Council on Medical Education and Hospitals of the American Medical Association. There are 149,521 physicians in this country in a total population of 118,127,654. The ratio is 126.59 physicians per hundred thousand of population, a greater ratio than in any other country. The District of Columbia leads in the United States in the supply of physicians, having 34.22 per 10,000 of population; California follows with 19.97; then comes Colorado with 16.81; Nevada with 16.66; New York with 16.31, and so on down the list to South Carolina, which has the least ratio with 7.09 physicians to each 10,000 of population. Graduates from medical schools in the United States increased in the two year period, 1926-1928, from 3,962 to 4,262. During this time the number of medical schools recognized by the American Medical Association has

been reduced by six. The capacity of the medical schools, however, has been increased by the construction of enlarged plants. In the last twenty years new medical school buildings or enlarged teaching hospitals have been erected by at least forty-eight schools. Reports from sixty-three of the seventy-four recognized medical schools for the year 1926-1927 show that they had a total income of \$11,983,783 and an expenditure of \$11,308,800. The average amount paid that year by each student to the schools reporting was \$254. The average expenditure by the school was \$704 per student. Of the total expenditures of the medical schools, 48 per cent, or \$5,469,214, was for instruction. In the last sixteen years, 67,198 students have enrolled in medical colleges, and 82.6 per cent of them have graduated. During 1928, there were 20,545 students enrolled in the medical colleges recognized by the American Medical Association.—Journal A. M. A.

MEDICAL OBSERVATIONS ON MY SOUTH AMERICAN-SOUTH AFRICAN CRUISE

LONA B. CARROLL, M. D.

DETROIT, MICHIGAN

I left Detroit January 19th. On my way to the train on that fateful afternoon I made five calls, so I was pretty well fed up on medical observations. Our first stop was Jamaica, and our next was Port of Spain. They were less than a week away from Detroit and a general practice in a Ford over icy streets. There is some excuse, then, for me when I say that I was not interested in medicine during these first two ports of call and I was just a bit bewildered over the sudden changes that were coming to me.

At Jamaica, however, I did observe one thing. There was a low, old-fashioned looking hospital—which I did not enter. I saw nurses with white caps passing back and forth and these nurses were both white and colored. Not black—just colored. There is a great distinction between colored and black, but *not* a very sharp dividing line between *colored* and white in Jamaica.

We saw almost no white children on the streets of Kingston. All seemed negro, or mostly negro. These little pickaninnies were the picture of health—no sign of rickets in these babies. The good tropical sun took care of that. I suppose they have other troubles that are not so plainly visible. In Kingston I saw one case of infantile paralysis in a boy about nine years of age. He was wearing a brace and was as well cared for as the children are in the states who have fallen into this grave misfortune.

At Port of Spain there were a great many East Indians. I was struck by the long, skinny, emaciated legs of the men, who were inevitably barefooted and walked in the streets mostly, rather than on the sidewalks. The legs of a full grown man would be scarcely larger than those of a boy of ten or twelve. I learned that these spindly legs were a racial characteristic and that there was nothing wrong with them—possibly the result of prolonged tropical diet.

At Rio I began to realize that I had left a trade at home (profession, I mean), and I started to be interested once more in medical affairs. It doesn't take one long to return just naturally to accustomed tracks of thought. I visited the only English or foreign hospital in Rio. It is called The Strangers Hospital. It had been an old residence, taken for the purpose, much as the same thing happens in our cities at home. It was cut up into many rooms—was unhandily laid out—elevators were few. Inclines were built for the conven-

ience of the orderlies' wagons. There were a great many levels of a step or two which required these inclines. I visited a patient who had had an operation for appendicitis nine days before. She was coming along fine and was going home the next day. She was going home, also, against her doctor's orders. He was a Portugese who had been educated in medicine in London. He believed and practised the English custom of keeping appendix cases in bed for two weeks. She was an American from Detroit and was used to the week or ten-day method here—and go home she would and she did, signing out and accepting the responsibility quite cheerfully.

This patient told me that she had waited to get into this hospital and to get the bed she wanted. There were other hospitals in Rio, but they were run on the Portuguese order. A Portuguese hospital has no regular nurses and it accepts the whole family with the patient. The family, especially the husband, stays with the patient, sleeping with her, or bringing his own bed with him, so as to be on hand and wait on the patient.

Obstetrical cases are taken care of mostly at home: but if the case comes to the hospital, the whole family moves in, too. Usually the case is infected, or has other complications, and the mother or child, or both, usually die. Naturally, therefore, hospitals in Rio have a bad name for obstetrics. If the case comes through all right, the baby stays with the mother and the family in the room, and is taken care of a-la-grandmother as they see fit: I was not, however, in a Portuguese hospital in Rio.

We went to Sao Paulo and visited the celebrated Brazilian snake farm. The snakes are kept in an enclosure. In this enclosure are many small circular huts about two feet high, made of brick or stone. Each little hut has an oval door through which the snakes crawl, and rest all piled up in tangled heaps. I did not

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ask how many snakes they have on the farm, but there are not such a great number, I think a few hundred in all. The different varieties all seem to be in together.

The snakes on this farm are brought from all over the world—but South America can supply a goodly number without importation. Once a snake is put into captivity he refuses to eat, so the keeper says, and lasts without food for about seven or eight months. The venom is taken from the snakes about every fifteen days, and injected into a horse, and the serum is prepared the same as we prepare diphtheria antitoxin. This snake laboratory at Sao Paulo was founded by Vetel Brazil and for many years was a private enterprise. Theodore Roosevelt, Sr., visited it and was much interested, and gave it some support. Since the war it has been taken over by the government of Brazil. They have, in connection with the farm, a manufacturing plant to manufacture the serums, and also a museum. Besides the snakes, the farm keeps poisonous toads and spiders from which they also make sera. The snake sera made are either mixed or specific. As a general thing the mixed serums are more to be desired, as often the exact variety of snake which has made the bite is not known.

Buenos Aires is a beautiful city—a city of stately edifices—no less dignified work can suit the buildings one sees in Buenos Aires. There are many hospitals in Buenos Aires and the rule of the beautiful and the imposing applies to the hospital buildings as well as to the other public buildings in Buenos Aires. There is a medical school in Buenos Aires as well. All the public hospitals are state maintained and no one can go into these hospitals and pay anything for care or for medical attention. Private cases are taken care of in private hospitals at enormous expense. There is no *middle* class in Buenos Aires, so the mass of the people are taken care of in the *clínica*, as they call it, and only the wealthy have their private sanitariums and private physicians on a much more elaborate system than that to which we are accustomed.

With Dr. Soding, who is in the employ of Parke, Davis & Co. in Buenos Aires, I visited the University Hospital there. They have a wonderful building. I have never seen so much and such good tile work so generally used. The hospital was a marvelous structure and wonderfully equipped. The X-ray room, which they showed me with pardonable pride, was absolutely the

last word. In fact, every part of the hospital was very completely equipped and the building, as I said before, was a regular masterpiece. These buildings, fine as they are, have no heating system. No public buildings in Buenos Aires are ever heated and it gets *cold* in the Argentine in winter.

These South American hospitals have two main differences from ours. First, they have no nursing force as we know it. They have paid attendants or orderlies and a doctor or interne does the work which these attendants are not trained to do. These attendants are also mostly men. We draw *our* nurses from the upper or middle classes. The Spanish women of these classes do not work. They are supported, as were our women of scarcely more than a generation ago, willingly or unwillingly by some male relative, till they escape through the only opening for them, a more or less suitable, but always welcome marriage. In other words, Latin women of the upper classes do not work; they get married at any cost.

This absence of nurses gives to the hospitals a bare look. They do not have the cordial, hospitable appearance that is given to our hospitals and institutions by the pretty girls passing to and fro in uniforms.

The patients, as far as possible, wait on themselves. Babies are kept in the same bed with the mother. She can feed it whenever she wants to. No hospital training schedule for the babes of Buenos Aires. Babies are not given a daily bath—after the first bath, very often, they are not bathed till the mother is able to do it herself.

The second big difference from our medical management is the training of midwives as just midwives. There is in connection with the hospital a school for midwifery. I suppose, of course, that is better than letting midwives practice without a training, as they do in our country. But just *any* woman can take midwifery. There is no educational requirement, they are not taught obstetrics and almost nothing of asepsis. They are taught the mechanics of simple midwifery and the results depend very often upon the daring of the midwife and the endurance of the patient. A doctor is never called till a midwife has done her worst and the case, through general mismanagement, is often fatal. So doctors have a bad name for obstetrics in Latin countries. They have Caesareans, and pubiotomies and versions, which are always done by a doctor—usually by a sur-

geon—not by a special obstetrician, as in our country.

The fine University Hospital which I saw in Buenos Aires is entirely free, and Dr. Soding assured me it was one of the poorest in Buenos Aires. He apologized profusely that the shortness of the time would not let me see other hospitals; although this was the University Hospital and held rank as such. He told me that Buenos Aires has twenty absolutely free hospitals, and nobody can pay a *piso* in any of these institutions, which are supported entirely by the federal government.

The university hospital which I visited has this department of obstetrics to teach midwives, as I have explained. There is another hospital “much more luxurious,” using the Spanish doctor’s words, and this has a maternity department to teach obstetrics of a more advanced order to *doctors*. This hospital is also entirely free.

Obstetrics, as a branch of medicine, is looked down upon in Latin countries. A doctor would not call himself an obstetrician. To be great, and to be important, one must be a surgeon, and do spectacular surgery. No mere pill dispenser or midwife has much prestige here—and prestige and show are the life and breath of the Latin.

Leaving South America, we passed and called upon a little spot in the South Atlantic—Tristan-da-Cunha—an interesting little dot with a handful of souls who have lived and died on the island for three generations or so—England’s farthest flung outpost. An interesting medical note, in passing, is the almost total absence of our so-called epidemic diseases on the island. These people are fed mostly on potatoes and fish, and their endurance is low, presumably, and they would probably yield very easily to an epidemic if one should get itself planted on the island. But such has not happened to them. The people of the island find their final exit through the ordinary gateways of accident, heart, kidney or other chronic disablements when the machine wears down.

Our next stop was Cape Town and that ushered us into the general dominion of South Africa. South Africa is a British dominion and things there are no different to any extent medically than they are here. Any differences there may be are simply attendant upon the local diseases, the personnel of the country and upon the financial situation in the country.

I visited the hospital in Cape Town. It

is an old building and not modern. It had about 350 beds. But the medicine practised in the hospital is of a superior type.

The pediatrics division was interesting to me and it is of note to say that the number of ear cases and mastoids has increased during the past three to five years in Cape Town, just as it has in the states.

Cecil Rhodes left money to build a new university. It is being built a section at a time. The new medical building was the part of greatest interest to me and I went to see it. It was just three immense stone buildings—not unlike those at Ann Arbor. They are getting ready to build a new university hospital near the university proper. I saw the site. They are just starting to excavate.

In Cape Town a most interesting thing to me were the life-sized plaster casts of the Bushmen, who were the earliest inhabitants of Africa when the Portuguese came there about 1500 A. D. They correspond to our Indians. The Bushmen inhabited this particular part. The Hottentots and Bantus were further inland. The Bushmen are about extinct now. At least, this is the information given me by a young medical student who was my guide; but the museum man said there were 500 or 600 of them left. The Bushmen were a little people, all five feet or under in height, brown in color, fine featured—not like the negro in type. They were of an aesthetic nature as shown by the different rock carvings found in the neighborhood. They have a characteristic physical marking, which is a deposit of fat over their gluteal muscles—making their contour somewhat like a congenitally-dislocated hip case. Only this hump appearance is entirely a fatty deposit. The hump begins at puberty and lasts up to old age and is useful as the hump on a camel, to be used as the body needs it. As I said before, the Bushmen are very artistic. Many stores are found with carvings which are of a very superior grade of work. Geologists say these carvings are many thousands of years old. They show these large hipped figures, as well as figures of animals that have been extinct for ages. Besides these rock carvings there are rock paintings, using certain rocks and soils as coloring matter. These rock paintings often showed real connected thoughts, as though they were trying to convey a narrative—animals and people in action—shooting, running, looking, etc., and all showed these large hipped figures to signify the human outline.

From Cape Town we went north to Jo-

Johannesburg. The Wet-Water Rand gold mines are at Johannesburg, and we were entertained at the mines—going through one of the mines and the works in connection with it. I was fortunate to know Mr. McLean, who was manager for the particular sections of mines which we were visiting. Mr. McLean was from my little native province of New Brunswick. He took me to visit the kitchens of the native workers in the mine and also, since I was interested, we visited the hospital maintained by the mine for the native workers. These natives must pass a vigorous physical examination when entering the employ of the mine. The great trouble from rock drilling is tuberculosis, due to the quartz dust. So the weight of each worker is checked upon very carefully, routinely and very often. The scales that are used are very especially fine, having cost about \$600 each.

The beds in the mine hospital were cots. The blankets were grey, of the army variety. There was an M.D. in constant attendance. There were no nurses. The patients, all being men, of course, were cared for by male attendants. The hospital food was good, and suitable, and the patients looked well cared for.

The next day the members of the cruise went for a drive around Johannesburg, but I went to visit the Johannesburg General Hospital. It has been said, and I find incorrectly, to be the largest single hospital in the British empire. It is very large, however, and has 975 beds. It is a good hospital—that is, the work is of a high degree of excellence, but the building is old and not modern. I was shown over the hospital by the assistant superintendent, who expected to leave Johannesburg in about three weeks to visit the states. His visit was to include the Mayo clinic, which was much talked about in the hospital.

While I was in Johannesburg General Hospital the only thing at all which would remind one of Africa were the colored house boys, who acted as messengers, waiters and chore boys generally. These boys, so-called, often they were men of mature years, were quite unique. They were dressed in khaki clothes with shorts—long, bare legs and bare feet. They behaved and were treated as children and nobody seemed at all amused or amazed by anything they did. For example, I saw one wiry boy with a huge tray held high over his head, leave the diet kitchen with a modified charleston step, waltz gaily down the hall, and bring up at a stiff gallop at the

nurse's table, the contents of the tray perfectly undisturbed. The nurse accepted the donation with complete equanimity as if he had not in any way performed out of the usual. So much for South Africa. It was fine, wonderful, and I'd like to go again. From South Africa we went to Egypt.

Before going on my trip I signed no less than four separate and distinct agreements not to practise medicine in Egypt. None of the other countries to which I was going seemed so aware of the fact that a doctor would just naturally feel that he must give them medical attention. When I got there I discovered the sad truth. About 90 per cent of the population of Egypt has ophthalmia of one type or another, and Egypt does not want any promiscuous doctoring. Trachoma is very common with its attendant blindness. I didn't practise medicine in Egypt because I promised not to, but I did open up on the hygiene question to a dilapidated looking woman with a wretched little sleeping baby on her back. The baby had its eyes wet with recent tears or a conjunctivitis already started and those eyes were surrounded with flies—just as I have seen flies clustered around the horns of a cow in the country. The dilapidated woman smiled as only a beggar can smile and called me a pretty lady: but, it was because I gave her *bacsheash* (alms) and *not* because I told her to protect the face of her sleeping babe. One or two more blind people doesn't make much difference in Egypt; they are used to it. And, as I said before, nobody can practice medicine in Egypt.

Egypt has other medical needs. The streets of Cairo were covered with litter and dirt. Rats are everywhere, but perhaps these and other factors present are natural scavengers of the place. Egypt has a dry climate. Bacteria do not thrive unless dampness is present. The hot sun of the place, with its germicidal rays, does much to keep the place reasonably healthy outside of the flies and the ophthalmia.

The Nile flows a thousand miles through the desert without a single tributary. It is the only water in Egypt that doesn't come in bottles. There is a saying in that country that anyone who drinks Nile water will return to the Nile. I am superstitious so I took a chance and am still alive. The city water supply of Cairo is tested daily. The clerk at the Shepherds Hotel earnestly assured me that these tests were reliable, because they were done by English

bacteriologists and were not under Egyptian government control.

It wouldn't be right to close this paper and not to mention Italy. Italy isn't used to being left out when people are talking about trips abroad. Italy keeps her beauty in her blue skies, her vineyards and her churches. Her blue skies weren't working when I was there, and neither were her vineyards, as vineyards. Her churches came up to schedule as far as my meagre art education could determine. They were maintained and it would seem, quite sufficiently, by "da passa da hat" method. Art must have its public support.

Still, Italy is worth visiting. It will take from ten to twenty years at least from the age of most doctors. It will take him back maybe a little too vividly to his clinic days. Big Italy does not differ very greatly from Little Italy. At least not in Naples. You can imagine yourself easily in the Italian section of New York, Philadelphia, or Detroit. The women have the same straight black hair, with the same large knob at the back of their heads, their tummies are just as big, their feet are just as slovenly, their aprons and their sweaters are just the same, they talk just as much and just as excitedly, and there are just as many crying babies. The babies are dressed in just as cheap, just as tawdry, just as showy and just as dirty finery. The older children look just as sallow and just as rachitic as they do at any of our city dispensaries. The men look

just the same, too—dark visioned, untidy souls, doing untidy, messy things. Then, too, I saw a wedding and a funeral. All I needed to do was to born a baby and the cycle would be complete.

Thanks to the strong hand of Mussilini, Italy is much cleaned up. Naples is a fairly clean city. They say that it did not use to be. Mussilini has cleaned up Florence and Milan also. His iron hand is felt everywhere. People here are wondering if Italy will "progress backwards" when he has been removed either by age or by an assassin's hand.

So much for the medical observation on my cruise. When you realize that we were only a few days, and often only a few hours in a place, you will understand why my observances were not of a deeper nature.

I would like to say just a word in closing, about a malady that befell our ship after leaving Durban. But my information is disjointed and the diagnosis is mostly of my own making, so I will not write much about it. It is sufficient to say that the malady passed as malignant malaria and the type of fever strongly suggested that this was the case. However, there were no other milder cases of malaria on the ship. We lost four passengers with the disease, which ran a very high fever. The patient became unconscious from the pyrexia and died about six to eight days after the onset.

WOOD ALCOHOL BLINDNESS NEEDS FURTHER STUDY

The story of the blindness that comes from wood alcohol has not yet been completely told. A further study of this problem might well be made by the newly dedicated Wilmer Ophthalmological Institute, Dr. George E. De Schweinitz of the University of Pennsylvania suggested in his address at the dedication exercises. Physicians now generally believe that it is not the wood alcohol but some impurity in it, possibly fusel oil which is nearly always found in commercial wood alcohol, that causes the blindness. The bad liquor prevalent in recent years often contains wood alcohol and has been the cause of much wood alcohol poisoning and blindness. However, wood alcohol may also be inhaled or it may be absorbed through the skin. This is an important hazard in certain industrial operations.

The dedication of the new Wilmer Institute, devoted to the study and treatment of eye diseases, Dr. DeSchweinitz considered an outstanding contribution to American ophthalmology, which is the branch of medicine devoted to the eye. Other landmarks mentioned by this famous eye specialist were the invention of bifocal glasses by Benjamin Franklin in 1764; and the estab-

lishment of the first eye infirmary in this country at New London, Conn., in 1870.

One of the first operations for cataract performed in this country was done by Edward Reynolds of Boston. On his return from Europe where he had been studying the eye and its diseases, he found his father suffering from cataract. According to his own account, he "went to his surgery, offered a prayer to the Deity, took a glass of sherry and went ahead to do his best."

Routine examination and care of the eyes of all patients entering the hospital first was established in this country at the hospital of the University of Pennsylvania Medical School by Dr. Charles Norris of that institution. This was a particularly important step in the development of ophthalmology, Dr. DeSchweinitz pointed out. He declared that further development of this medical specialty would come through further co-operation between eye specialist, regular physician and pathologist, the latter being the specialist, who studies in the laboratory the changes brought about in the body's tissues by disease. Conditions at the new Wilmer Institute are particularly fortunate both for the individual patient and for the development of the science of ophthalmology.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

RESEARCH IN BACTERIOPHAGEY

For several years the Bureau of Laboratories of the Michigan Department of Health has carried on investigation in the properties of bacteriophage. The results have been so promising that a definite program of further research is now under way. A brief statement of some of the possibilities to be studied follows:

1. Production of streptococcus bacteriophage.
2. Preparation and properties of purified bacteriophage.
3. Production of polyvirulent coli bacteriophage.
4. Study of effect of bacteriophage in mouse typhoid.
5. Study of keeping qualities of phage lysed proteins.
6. Antibody production by multiple antigens.
7. Continuation of studies of staphylococcus bacteriophage as therapeutic agent.

1. Although great progress has been made in the study of the effects of staphylococcus and of coli bacteriophage in therapeutic work, the streptococcus infections have remained untouched. This is owing to the fact that no satisfactory streptococcus bacteriophage has as yet been prepared. To prepare such a phage is apparently not a simple matter. A fairly large number of streptococcus strains must be accumulated and tested with exudate from infections caused by such organisms. There are many methods by which bacteriophage has been obtained for other organisms. None of these can be neglected in the search for a streptococcus bacteriophage. The procedure must be more or less a trial and error method but is not only worth the effort; it seems to be more or less imperative. Our results with staphylococcus bacteriophage demand that someone should make the effort to produce streptococcus phage.

2. In our efforts to learn more of the nature of the bacteriophage we have depended upon filtrates in which the bacteriophage was present in association with various proteins. In such material the phage is strongly absorbed to these proteins and the physical properties attributed to the bacteriophage are to a considerable extent due to the effect of this absorption. This applies particularly to the titration meth-

ods now used to measure the potency of bacteriophage preparations. Further, it is only through the use of purified phage that we can hope to investigate the role of the respective fractions of the bacteriophage filtrates now used in therapy. Finally, the use of purified phage is the only method that offers a solution to the problem of the nature of the principle.

3. Colon bacteriophage has been used especially in the treatment of pyuria with excellent results. However, at present it is considered necessary to prepare specific bacteriophage for each treatment, a slow and unsatisfactory procedure. It is necessary to search for a polyvirulent race or to make such a one by combining many specific races. This is a routine problem but one whose results should be quite encouraging.

4. The methods now used in bacteriophage therapy are entirely empirical. It is not known whether the *bacteriophage* or the *lysed proteins* are responsible for the results obtained. Further, the dosage and the route of administration depend upon some therapeutic success rather than upon a careful study of the effects of variations in dosage and method of administration. The entire subject should be carefully studied in an animal infection which is naturally acquired and transmitted. This problem has received some consideration notably by Bronfenbrenner and by Webster and his co-workers at the Rockefeller Institute. It is by no means covered.

5. If, as we suspect, the bacteriophage lysed bacterial proteins are particularly significant in bacteriophage therapy, it is necessary to learn more as to the quantitative and qualitative changes that occur in the proteins during standing. It is evident from work already done that the agglutinin response elicited with old filtrates is less than that obtained with fresh material. It has been claimed that the presence of the phage hastens this deterioration. In order to properly control our product it is essential that we should know more about this phenomenon.

6. This problem concerns not only bacteriophage therapy but has great significance from the standpoint of the use of multiple biological immunizing agents. It has been shown notably by Behrens of Purdue that successive inoculations of different antigens greatly affect the production

of antibodies and the content of antibodies already formed. It would appear that three antigens may be inoculated without marked effect upon the antibody response, but that when a fourth is added, there is no possibility of predicting the results. Such an observation is of tremendous significance in view of our present and growing practice in control of communicable disease. It requires exhaustive investigation with antigens at present in use. It would appear that such an investigation might shed some light on the apparent anomalies that are so frequently encountered in actual immunological practice.

We are and have been conducting therapeutic experiments in the use of staphylococcus bacteriophage. This work requires the production of staphylococcus bacteriophage in large quantities and necessitates constant check and study of the product. This work alone requires the entire time of one worker and the supervision of another. Our work outside of the laboratory requires frequent conferences and talks with physicians using bacteriophage and particularly co-operation with clinics where an effort is being made to carry on controlled experiments. This work should be extended as rapidly as possible. Further, we are completing a rather ambitious experiment in which we are studying the effect of inoculations of bacteriophage against *B. typhosus* with a view to substituting this product for the vaccine at present used. This work requires some travel and together with the other work now being done takes all the time of the present investigator. It is only by increasing the staff and facilities for work that we can hope to approach the problems outlined above which seem to us after several years of study and investigation most imperative. To leave them untouched is to seriously interfere with our progress towards our goal which is a rational basis for biological therapy and prophylaxis with the bacteriophage as a most helpful ally.—N. W. L.

A NEW COUNTY HEALTH DEPARTMENT

The Midland County Board of Supervisors at their October meeting approved a budget of \$12,000 for a county health unit. Work is to begin January 1, 1930. Headquarters for the unit will be in the court house.

The Board also appointed a standing committee on public health which will act on all appropriations and all legal matters connected with the county health department. The entire county medical society

will serve as an advisory board of health having general supervision of professional matters.

THE DIPHTHERIA PROTECTION CAMPAIGN

Arenac, Gladwin, and Muskegon Counties will have special campaigns for the protection of children against diphtheria, the boards of supervisors in these three counties having appropriated funds for that purpose.

In each case the Michigan Department of Health will furnish printed material—educational leaflets, letters to parents, schedule cards, 100 per cent schoolroom cards, and posters. The department also furnishes the toxin-antitoxin and Schick material, and gives organizing and lecturing assistance when required. Administration of the toxin-antitoxin is done in every case by local physicians and the money appropriated is used to pay for their services.

Immunizing of preschool children is receiving special emphasis this year.

Diphtheria reports show that while the incidence of diphtheria in the state was above normal during June and July, it has been considerably below normal during August, September, and October. The five year average of cases for October was 634, while the reports showed only 449 cases.

SMALLPOX INCREASING

The October smallpox expectance is 45 cases, in contrast to the 157 cases that actually occurred. More emphasis upon vaccination seems to be pretty generally indicated.

LABORATORY WORK SHOWS GAIN

Records in the Bureau of Laboratories show an increase of 17½ per cent in work done during July, August and September, in contrast to that done during the same period last year. With only a 6 per cent increase in the bureau budget it has been difficult to handle the added work satisfactorily. The effect has been felt especially in the divisions doing investigations and research, since these have suffered the curtailment necessary to carry the additional routine work.

HEALTH WORK IN SCHOOLS AND INDUSTRIAL HEALTH

The close relation between health work in schools and industries is disclosed by the results of physical examination of applicants for employment. A very high per

cent of physical defects are found in those under the age of 20 years. It is further noted that the list of defects is very much the same among the youth and young adults in industry as it is among school children and from their nature the conclusion is drawn that many of these defective conditions should have been detected and corrected during school life.

Another significant fact is discovered in a survey of the schools of some of our larger cities. It shows that about 90 per cent of the pupils leave the schools directly to enter industrial or mercantile work. Obviously these two conditions have a decided bearing upon the health problems in the industrial field.

In making health surveys and trying to analyze certain health problems in our Michigan industries, one frequently hears severe indications against our educational system. Supervisors of Personnel and physicians in industries charge that many of their problems are due to failure of the schools to attain their objective: To fit the individual for life; that while much is done toward inspections, physical examinations and correction of defects in the lower grades, there is a lapse in this interest during later school life; that a high per cent of the young applicants for employment come to them in physically unfit conditions and with damaging health habits.

Hence industry recommends that the basis for industrial health work should be established in better and more continuous school health supervision; that health standards should be raised in the public schools, especially vocational and technical schools. What our vocational schools are now doing to establish proper health habits and correct physical defects, thus helping to solve the problems of preventive medicine in industry, is an interesting chapter.

—F. A. P.

CHILD HYGIENE

Final work on the study of all puerperal deaths occurring in Michigan from July 1, 1926, to December 31, 1928, carried on by the Bureau of Child Hygiene and Public Health Nursing of the Michigan Department of Health in conjunction with the Michigan State Medical Society, will be done in November. A total of 59 cases not quoted as puerperal on the original death certificates were queried from the Federal Census Bureau at Washington and found to be puerperal. Of these, 17 were from Detroit and 42 were scattered throughout the state. Dr. Florence Knowl-

ton will consult the physicians on the 42 cases, securing the information necessary to complete the study.

Dr. Ida M. Alexander and Dr. Florence Knowlton are spending four weeks lecturing in county normals as a part of the department's special program of applied hygiene for county normal training classes.

Dr. Alexander discusses child hygiene in general, emphasizing the teacher's responsibility in noting abnormal conditions and seeing that they are brought to the attention of a physician.

Dr. Knowlton's subject is, "Contagious Disease Control in Schools," with special stress laid upon prompt medical attention and prevention.

Child Care Classes are now being conducted in Calhoun county by Nell Lemmer, R. N., in Arenac county by Bertha Cooper, R. N., in Ontonagon by Julia Clock, R. N., and in Delta county by Annette Fox, R. N.

Esther Nash, R. N., and Charlotte Ludington, R. N., are in Arenac and Gladwin counties assisting the local groups in organizing and carrying on toxin-antitoxin campaigns.

UPPER PENINSULA NURSES MEET

Public health nurses of the Upper Peninsula met at the Peter White library in Marquette, November 1 and 2, for a general conference. This was the second meeting of its type, the first, which was held last year, proving very successful. The conferences are intended to supplement the annual public health conferences held in Lansing which many of the Upper Peninsula nurses find it impossible to attend.

The program follows:

Friday, November 1—

10:00 a. m.—Registration.

11:00 a. m.—Communicable Diseases and Prevention.

Don M. Griswold, M.D., D.P.H.,
Deputy Commissioner, Michigan
Department of Health, Lansing.

Discussion.

Dr. T. R. Laughbaum, Health
Officer, Marquette.

Dorothy Hill, R. N., School
Nurse, Munising.

12:30 p. m.—Lunch intermission.

2:30 p. m.—Laboratory Service of the Michigan Department of Health.

Ora M. Mills, Assistant Director
of Laboratories, Houghton.

3:00 p. m.—School Nursing Program.

Mrs. Barbara Fletcher, Field
Director, American Red Cross.

Discussion.
Elizabeth Alzheimer, R. N.,
School Nurse, Houghton.
Mrs. Hugh Gaston, R. N., School
Nurse, Sault Ste. Marie.

4:00 p. m.—A Prenatal Call.
Metropolitan Life Insurance
Company Nurses.

6:30 p. m.—Dinner.

Saturday, November 2—
9:00 a. m.—Plans of the Children's Fund.
Edna L. Hamilton, Director of
Nurses, Children's Fund, De-
troit.

Discussion and Questions.

10:00 a. m.—Planning a Health Education and
Publicity Program.
Marjorie Delavan, Director, Bu-
reau of Education, Michigan
Department of Health, Lansing.

11:00 a. m.—A Time Study.
Mrs. Barbara Fletcher, Ameri-
can Red Cross.

THE DEVELOPMENT OF SANITARY ENGINEERING
IN MICHIGAN

Speaking before a state convention re-
cently, Colonel E. D. Rich, Director of the
Bureau of Engineering, gave the follow-
ing interesting resume of the development
of one of the first branches of public health
work to be started in Michigan. The im-
portance of a wholesome environment was
recognized long before its exact relation to
health had been determined.

Colonel Rich said in part:
“No definite date can be settled upon as
the beginning of sanitary engineering
work in the Michigan Department of
Health.

“In 1895 a clerk was employed who was
a plumber by trade. As nuisance reports
and other complaints came in from time to
time, this man was sent out to investigate
and give advice.

“The first positive step which seems to
recognize the necessity of sanitary engi-
neering work was taken when Act 28, P.
A. 1909, was passed by the legislature.
This law gave to the State Department of
Health jurisdiction over water supplies of
the state owned and operated by private
companies. No jurisdiction was given
over municipal supplies.

“In July, 1911, the present director of
the Bureau of Engineering began work
with the State Department of Health on
a part-time basis. During 1911, 1912, and
the first half of 1913, numerous investiga-
tions of nuisances, water supplies, and
sewerage and sewage disposal were made
on a part-time basis.

“On August 13, 1913, Act 98, P. A. 1913,
took effect, providing for the employment
on full-time of a State Sanitary Engineer
and the necessary assistants. This title has

since been changed to Director of the Bu-
reau of Engineering. Previous to this date
sanitary engineering service was paid for
on a per diem basis under the Medical In-
spection Act.

“The work began with one assistant en-
gineer and one stenographer. A second
assistant was added during the winter of
1914, and the force has gradually increased
until there are now five assistant engi-
neers, one water inspector, one director of
plumbing, and three stenographers.”

PREVALENCE OF DISEASE

	October Report			
	Cases Reported			
	September 1929	October 1929	October 1928	Average 5 years
Pneumonia	203	325	326	268
Tuberculosis	456	766	735	519
Typhoid Fever	49	53	44	105
Diphtheria	254	476	498	533
Whooping Cough	518	349	850	511
Scarlet Fever	330	723	559	643
Measles	235	444	176	183
Smallpox	73	170	55	39
Meningitis	84	85	40	15
Poliomyelitis	52	52	13	61
Syphilis	1,300	1,416	1,563	1,397
Gonorrhea	888	950	1,001	1,074
Chancroid	37	35	12	13

CONDENSED MONTHLY REPORT

October, 1929

Michigan Department of Health Laboratories				
	+	—	+-	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria				2347
Diagnosis	41	392		
Release	145	307		
Carrier	12	1450		
Virulence Tests	15	8		23
Throat Swabs for Hemolytic				
Streptococci				1675
Diagnosis	91	122		
Carrier	32	1430		
Throat Swabs for Vincent's	87	343		430
Syphilis				
Kahn	1441	7190	113	8744
Wassermann	3	3	1	7
Examination for Gonococci	210	2012		2222
B. Tuberculosis				
Sputum	70	510		580
Animal Inoculations				
Typhoid				247
Feces	17	82		
Blood Cultures	5	65		
Widals	8	59		
Urine	2	9		
B. Abortus				62
Dysentery				64
Intestinal Parasites				19
Transudates and Exudates				329
Blood Examinations (not classified)				135
Urine Examinations (not classified)				325
Water and Sewage Exam- inations				622
Milk Examinations				52
Toxicological Examinations				6
Autogenous Vaccines				2
Supplementary Examina- tions				196
Miscellaneous Examinations				434
Unsatisfactory Specimens				134
Total for the Month				18655
Cumulative Total (fiscal year)				69770
Increase over this month last year				1847
Houghton Laboratory—				
Examinations made — Total for the Month				2313
Cumulative Total (fiscal year)				8205
Increase over this month last year				822

Grand Rapids Laboratory—		
Examinations made — Total		
for the Month		6496
Cumulative Total (fiscal		
year)		24436
Decrease over this month		
last year		297
Typhoid Vaccine Distributed,		
c. c.		3330
Diphtheria Antitoxin Distrib-		
uted, units	45310000	
Silver Nitrate Ampules Dis-		
tributed		9348
Scarlet Fever Antitoxin Dis-		
tributed, Pkg.		105
Scarlet Fever Toxin Dick		
Test Distributed		550
Scarlet Fever Toxin Im-		
munization Distributed		1750
Smallpox Vaccine Distrib-		
uted, points		18575
Bacteriophage Distributed,		
c. c.		2404

We wish to announce the following people who have joined the Bureau of Laboratories:

Miss Zelma Zentmire, formerly with the Iowa State Board of Health, and Henry Ford hospital, Detroit.

Miss Elizabeth Brown, University of Wisconsin graduate.

Miss Jean Webster, University of Wisconsin graduate.

Percy M. Phelps, B. S. degree Wesleyan College, A. M. degree Brown University. Formerly connected with the Health Department, Bluefield, W. Va. Now at the Grand Rapids Laboratory.

Miss Gertrude Connor, graduate of Simmons College.

Miss Genevieve Foley, graduate of Simmons College, and is now at the Grand Rapids Laboratory.

Miss Pearl Kendrick, Chief of the Grand Rapids Laboratory, has a fellowship from the Rockefeller Foundation and is attending Johns Hopkins University for a year, at the end of which time she will return to the laboratory at Grand Rapids.

MENTAL DISORDERS MAY FOLLOW OPERATIONS

Mental and emotional disorders may follow surgical operations, but the operations themselves are rarely the cause of the upsets, Dr. Robert B. McGraw of Columbia University explained to Physicians gathered for the Graduate Fortnight of the New York Academy of Medicine. The causes of mental disturbances after operations may be found in the mental and emotional make-up of the patient. The operation is generally only a provoking incident. The same disturbance might have been caused by any other happening that would have too greatly strained the patient's ability to adapt himself. "Usually an operation is only an incident in the chain of circumstances leading to an emotional disorder as a breaking down of the adaptive ability of the organism. The adaptive ability of the patient breaks down at time of special stress," Dr. McGraw stated. "A serious operation may likewise be an important event in an individual's physical and psychic life."—Science Service.

TRUTH ABOUT MEDICINE

NEW AND NONOFFICIAL REMEDIES

Calcium Gluconate-Sandoz.—It contains calcium equivalent to not less than 12.40 or more than 12.80 per cent of calcium oxide. Calcium Gluconate-Sandoz is used to obtain the therapeutic effects of calcium. It is more palatable than calcium chloride and for hypodermic or intramuscular use is nonirritant. It is supplied in the form of a powder and in ampules containing 10 c.c. of a 10 per cent stabilized supersaturated solution. Sandoz Chemical Works, Inc., New York.

Atoquinol-Ciba.—The allyl ester of 2-phenyl-quinolin-4-carboxylic acid. The actions and uses of Atoquinol-Ciba are practically like those of cinchophen. It is supplied in the form of tablets 0.25 gm. (4 grains). Ciba Co., Inc., New York. (Jour. A.M.A., October 19, 1929, p. 1223).

Chiniofon. — Sodium-iodoxyquinolinesulphonate. —A mixture prepared from approximately four parts of 7-iodo-8-hydroxy-quinoline-5-sulphonic acid, containing not less than 26.5 per cent of combined iodine, and 1 part of sodium bicarbonate. Chiniofon, which is closely similar to preparations introduced under various proprietary names as wound antiseptics, has been found to be of use in the treatment of amebic dysentery.

PROPAGANDA FOR REFORM

Anayodin Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that Anayodin was presented by the Ernst Bischoff Co., Inc., with the statement that it was composed of iodoxyquinolin-sulphonic acid with the addition of 22 per cent sodium bicarbonate, and that from the information before the Council it appeared that Anayodin was a mixture prepared from approximately four parts of 7-iodo-8-hydroxy-quinolin-5-sulphonic acid and one part of sodium bicarbonate, which during recent years has been used in the treatment of amebic dysentery while similar preparations under various trade names had before this been proposed as wound antiseptics. The Council informed the Ernst Bischoff Co., Inc. that, since it was not the discoverer of the preparation, the Council could not recognize a proprietary name for it, but, unless other conflicts appeared, its product would be accepted if marketed as chiniofon which name the Council had adopted for the mixture represented by "Anayodin", if acceptable tests were provided to insure its purity and uniformity and the advertising revised to meet stated objections. Ernst Bischoff Co., Inc. did not make its preparation acceptable and, accordingly, the Council declared "Anayodin" unacceptable for New and Nonofficial Remedies because it is an unoriginal preparation, marketed under a noninforming name without an adequate statement of composition; because no evidence was available to show that its identity and uniformity are adequately controlled; and because it is marketed with therapeutic claims which are unwarranted. (Jour. A.M.A., October 5, 1929, p. 1065).

Bert Sondergord and the Peptono Medical Co.—Under the trade name "Peptono Medical Co." and under his own name, Bert Sondergord, Cairo, Ill. has been selling a quack remedy for "lost manhood". He has also offered shares in the Peptono Medical Co. for sale. Sondergord advertised in

the Police Gazette and similar sheets. An investigation of the preparations that were being sold and of the stock selling scheme by the Post Office authorities resulted in the issuance of a fraud order debarring the Peptono Medical Co. from the use of the mails. (Jour. A.M.A., October 5, 1929, p. 1082).

Committee on Foods.—The Council on Pharmacy and Chemistry has established a Committee on Nonmedicinal Foods to pass on all food products for which health claims might be made. The Committee has prepared a series of rules under which it proposes to operate and these have been approved by the Council on Pharmacy and Chemistry. Any product which it is desired to have considered for "Accepted Foods" should be presented to the Committee on Foods, American Medical Association, 535 North Dearborn St., Chicago. The rules for the acceptance of foods are patterned on the principles of New and Nonofficial Remedies, with such modifications and relaxations as are made necessary by the different nature of the products concerned. Reports on products considered, having received approval of the Committee, may be published in the Journal of the American Medical Association under the section devoted to the Council on Pharmacy and Chemistry with a special heading, "Committee on Foods". At the end of each year, all reports shall be assembled in book form, with the reports of all products accepted preceding the reports of all products rejected. This book shall have the title "Accepted Foods". Jour. A.M.A., October 12, 1929, p. 1144).

Liver Extract No. 343.—The Council publishes a report of the Committee on Pernicious Anemia of the Harvard Medical School. This report states that in May, 1927, the Committee on Pernicious Anemia of the Harvard Medical School was organized to study the properties and to determine the clinical value of the fractions of liver that were being extracted, and to determine in what way a satisfactory product could be made available. Under direction of this Committee, Eli Lilly & Co. offered to manufacture one of the extracts developed. The function of the Committee was merely to supervise the production of a suitable extract of known potency until such time as the medical profession should have become accustomed to its use. The treatment of more than 100 cases of pernicious anemia with this extract indicated that a satisfactory product was available and it was accepted by the Council on Pharmacy and Chemistry for New and Nonofficial Remedies, under the name "Liver Extract No. 343". For the past year Eli Lilly & Co. has regularly produced lots of material, every one of which has been shown to be clinically effective in the treatment of pernicious anemia, by a standardized process approved by the committee. The committee now feels that its function of developing a reliable commercial product has been accomplished, and that it may therefore cease actively to supervise the manufacturing process. (Jour. A.M.A., October 12, 1929, p. 1144).

The Committee on Foods.—The need of some body to express judgment of food products and food advertising, in the same way that the Council on Pharmacy and Chemistry considers medical preparations, has become apparent. The Council has therefore created a special committee on foods. The manufacturers of food products, distributors and all other interests in the promotion of natural food substances or of modified foods, for which claims are made in relation to the promotion of good health, will be asked to submit to the committee the products and the advertising

material used in advancing their sale. If a product is found acceptable by the committee, advertisements of it will be permitted in the publications of the American Medical Association, the product will be listed in the book on foods similar to New and Nonofficial Remedies, and the manufacturers will be permitted to use a symbol indicating that the product has been accepted by the committee for listing in the book of foods. If the product cannot reach the standards set forth, a report will be published as is done for drug products, and advertising of the preparation will not be permitted in the publications of the American Medical Association. The work of the Committee on Foods should do much to carry still further the message of good hygiene and of scientific medicine. In beginning this work, the Council on Pharmacy and Chemistry again asks the complete support of the medical profession. Only by the sincere co-operation of the medical profession with the committee can it achieve the prestige necessary to complete attainment of its objects. (Jour. A.M.A., October 12, 1929, p. 1147).

The Antipellagic Vitamin.—Evidence has been furnished that the so-called accessory food factor formerly designated as vitamin B and supplied in comparative abundance by yeast apparently contains, in addition to the antineuritic vitamin, a factor which promotes growth and cures and prevents dermatitis in rats; consequently it has been regarded as identical with the "P-P" factor described by Goldberger and others as curative and preventative of human pellagra. The newest American designation of this is vitamin G—the vitamin B2 of British biochemists. There is little doubt that both of these water-soluble vitamins are essential to growth and well being; and it seems reasonably certain that pellagra is due to a vitamin deficiency. It is now known that unheated yeast is rich in both and that cereals contain more vitamin B than vitamin G; milk and meat, the reverse. The vitamin G value of wheat and maize is low, as is that of dried legumes such as peas. Meat and egg yolk are richer in vitamin G than are the cereals, while liver and fresh milk are excellent sources of this dietary adjuvant. (Jour. A.M.A., October 12, 1929, p. 1149).

The W. R. Darlington Fraud, the Kuro Remedy Company's "Pile Cure".—For some years W. R. Darlington of Kansas City, Mo. has been selling an alleged cure for piles. An investigation by the Post Office authorities brought out that the preparations sold by Darlington were put up by Parke, Davis & Co. at their Kansas City branch. According to Darlington, the ingredients of his "pile treatment" are as follows: Pile Treatment Tablets:—Tr. Horse Chestnut, 1 min. (R/No. S-272690, P. D. & Co.) Compressed Tablets:—Potassium Bitartrate, 4 gr.; Sulphur Flowers, 7 gr.; Ext. Cascara Sagrada, 1½ gr. Pile Ointment:—(R/No. S-287974, P. D. & Co.), F. E. Hamamelis Lvs., 1 fl. oz.; Balsam Peru, 120 gr.; Po Fenugreek, 1 oz.; Wax and Petrolatum, Qs. Because the scheme is one for obtaining money through the mails by false and fraudulent pretenses, the Kuro Remedy Co. and the Kuro Co. were debarred from the use of the mails. (Jour. A.M.A., October 12, 1929, p. 1163).

Mizar Again.—For a good many years Joseph Sorokowski, Chicago, has been selling nostrums. His chief nostrum, "Mizar", sold as a remedy for rheumatism in particular, but also recommended for sprains, chilblains, headaches, frost-bite, "ear-sounds", cold in the chest, and asthma, was examined more than five years ago by the A.M.A.

Chemical Laboratory, which reported that the product was an ointment having as a base, a mixture of soap, petrolatum and a saponifiable fat, with red pepper as the active ingredient. The directions for using Mizar were that it should be rubbed on the parts affected and then a bandage put on. In two or three days an eruption might be expected to appear, which would prove that the rheumatism was "coming out". In addition Sorokowski has been selling "Logos", recommended for amenorrhea and "loss of manly strength", and "Zdrojanka", "an unequalled remedy for headache and hair strengthening." In a prosecution by the government it was brought out that, when analyzed by the federal chemists, Mizar was found to be an ointment containing capsicum, and Logos was found to contain 82 per cent of alcohol with other volatile matter aggregating 93.5 per cent. As the evidence shows that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, the Postmaster General issued a fraud order against Joseph Sorokowski, Z. Joseph Sorokowski, Josef Sorokowski and J. Sorokowski, thus denying the use of the mails for the sale of the nostrums. (Jour. A.M.A., October 19, 1929, p. 1240).

Borocaine Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that under the proprietary, nondescriptive name "Borocaine", Sharp & Dohme, Baltimore, market procaine borate, the boric acid salt of the base procaine. The product was placed on the market on the basis of work published by Copeland and Notton, who adopted the name Borocaine to designate the borates of various anesthetic bases which they experimented and who, according to Sharp & Dohme, gave their approval to the British Drug Houses to manufacture procaine borate under the title Borocaine. The A.M.A. Chemical Laboratory examined the product marketed as Borocaine and reported that it was the borate of the base procaine—that is, procaine borate. From a study of the literature it was concluded that the procaine borate studied by Copeland and Notton agreed essentially in composition with the procaine borate prepared and described in 1910 by Einhorn and Uhlfelder. Since procaine borate was previously described in the literature, the Council could not recognize the name Borocaine on the score of novelty, and since neither Sharp & Dohme, the British Drug Houses nor Copeland and Notton discovered the therapeutic value of

procaine or even the properties of procaine when contained in a solution in which ionization of the procaine salt does not occur, the Council could not recognize the name Borocaine under the clause which permits the recognition of a proprietary name for a previously known substance discovered to have therapeutic value. The Council therefore declared "Borocaine" unacceptable for New and Nonofficial Remedies because the application of a proprietary name to procaine borate is considered not to be in the interest of rational therapy. (Jour. A.M.A., October 26, 1929, p. 1309).

Cascara-Agar Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that, under the name "Cascara-Agar", the Reinschild Chemical Co. markets a preparation stated to contain "15 per cent of a watery percolation of two-year-old cascara bark, which is processed into No. 1 Agar, cut to size" and is recommended for use in constipation. It is stated on the trade package that the preparation is: "A harmless vegetable addition to breakfast food. Each teaspoonful contains a mild and specially prepared solution of Cascara Tea". Since no statement as to the amount of cascara contained in the product was given, the firm was asked to make a plain statement of the constituents of the product. The firm replied giving the method of preparation of the product. However, since no details were given as to the method used to "debitter" the cascara, one cannot say how much of the active principle of cascara was lost in the process of preparation and therefore the amount of cascara in a given quantity of the finished product cannot be judged. Experiments carried out lead to the conclusion that "Cascara-Agar" contains at most only a trace of cascara, and that it is misleading to call the preparation "Cascara-Agar". Information was received that the Reinschild Chemical Co. still markets "Regulin", a product which has been stated to be prepared in the same manner as is "Cascara-Agar". Since the Council does not accept an article under one name if an essentially similar product is marketed by the same firm under another name, this makes "Cascara-Agar" further objectionable. The Council declared "Cascara-Agar" unacceptable because it is an indefinite mixture marketed under a misleading name with unwarranted therapeutic claims, and because an essentially similar product is marketed by the same firm under another name. (Jour. A.M.A., October 26, 1929, p. 1309).

MME. CURIE HERE FOR SECOND GIFT OF RADIUM

America has been recently hostess to the greatest woman scientist the world has ever known. Mme. Marie Curie, co-discoverer of radium, has come to accept a second gift of a gram of the precious substance from her friends and admirers in this country. When the first gram was presented to her in 1921, she turned it over to the Curie Institute of the University of Paris. The second gram will be given to the Warsaw Cancer Hospital, which since 1921 has rented a gram, Mme. Curie herself paying the rental with the income of a money gift she received with the first gram of radium. Warsaw is Mme. Curie's native city, although she has worked and lived most of her life in Paris. Mme. Curie and her husband, Pierre Curie, discovered radium but refused to make any personal profit from their discovery. They gave it to the public together with the methods they evolved for pro-

ducing radium. These same methods are in use today in the radium industry. For years these great and generous scientists struggled with a meager income and without even an adequate laboratory. Pierre Curie, struck by a truck, died in 1906 without ever having a proper laboratory in which to use his great talents. Mme. Curie finally acquired the laboratory, planned too late for her husband to enjoy, in the Curie Institute. However, the small supply of radium in her laboratory was needed by the government during the war, and after the armistice she found herself without any of the precious substance. Then her admirers and friends in America came to the rescue with the gram of radium and the money which was meant to make living conditions easier for her. Characteristically, she used it to rent radium for the Warsaw Cancer Hospital.—Science Service.

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Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M. D., Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

DECEMBER, 1929

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

THERAPEUTICS

This is a large subject, yet those who read the symposium which appears in this number of the Journal, must admit that a great deal of information has been presented. The subject is important as one's success in the practice of medicine depends upon how he manages his patient. While diagnosis is of paramount importance, therapeutics is concerned with the immediate comfort of the patient, cure if possible, but at all events the relief of distressing symptoms. Not to be misunderstood, let it be emphasized that diagnosis is always more important than treatment, for we must know the condition to be treated before we can treat it.

The importance of suitable diet is being emphasized and within the past decade or so, with the development of physiological chemistry and due in large measure to the

work of McCollum and others, nutrition has become a science. Dr. Stewart quotes McCollum to the effect that "the chief factor responsible for human deterioration in recent times lies in the unwise choice of foods." If this be true it is apparent at once how much proper diet means in the treatment of actual disease conditions.

Stewart emphasizes what he calls the positive phase of dietotherapy. In times past the patient was dismissed with a warning regarding the articles of food which he must not eat, so that in the minds of the laity the word *diet* had come to mean starvation, or at least privation. It is only recently that it has taken on the significance of proper preparation and selection of foods.

Dr. Stewart discusses the dietetic treatment of intestinal stasis, which, as everyone knows, is a common and in many cases a stubborn condition to treat. The subject of acidosis is concisely dealt with. The author mentions the two types, the acid ash and the alkali or acetone type. In normal conditions the end products of the combustion of starches, fats and a large portion of proteins are eliminated by the respiratory process. Acidosis is apt to occur in conditions in which the cardiac and pulmonary circulation is interfered with. The author of the paper has dealt with this phase, namely, the prevention and treatment of acidosis clearly and at length. The conclusion consists of a discussion of mineral requirements, vitamins and deficiency diseases. The paper is an excellent summary of a big subject.

* * *

Physiotherapy is the subject of Dr. Paul Roth's paper. The doctor goes on to show how physical methods in the treatment of disease have been employed empirically from the earliest times. He draws attention to the healing power of nature and stresses the fact that physiotherapy is only an attempt to create conditions more favorable to this healing process. Attention is called to the study of the borderline between health and disease. In other words, the author stresses the importance of studying the case in the earlier stages of illness, in fact, before the patient has become incapacitated. In this he is in agreement with MacKenzie, the great Scottish physician, who felt that greater attention should be given to the earliest symptoms of disease rather than to the terminal stages. Dr. Roth rightly states that physiotherapy has a great place in the preven-

tion of disease. Then we have discussed such physiotherapeutic agents as air, light, electricity and exercise. In a word, "physiotherapy makes use of the same agents that are primarily indispensable for the promotion of life."

* * *

Dr. Yoder presents an interesting discussion of psychotherapy. After reviewing briefly the history of the subject from the earliest times, including the work of Mesmer (1736), Christian Science and the work of Freud, all of which have fallen short, the speaker is inclined to be more favorable to the work of Jung. Psychotherapy means treatment with the mind, and he makes it plain that he means the mind of the operator and not that of the patient. Every successful physician is a good psychotherapist, according to Dr. Yoder.

Psychotherapy is indicated in those cases in which the presence of definite organic lesion has been excluded in a painstaking and thorough diagnosis. The failure of cures is due to the fact that they use the same treatment for all diseases, making no effort to differentiate one from another.

The first principle of psychotherapy, the author explains, is re-education, claiming that to have any form of mental disease a certain amount of "education" is necessary. A second important principle is readjustment to environment. The tenor of Dr. Yoder's paper is the value of mental hygiene, important as a prophylactic, as vaccination in the prevention of smallpox.

The essayist concludes by calling attention to the dearth of institutions set apart for the care of mental patients. We have stressed the need editorially of specialized education for the general practitioner following the line of mental hygiene. From the very intimate contact formed with his families the physician in general practice is in a better position to treat these cases early than is the specialist who sees them only in their later and often incurable stages.

* * *

Dr. Marshall's discussion of medicinal therapeutics contains many interesting suggestions. There is no question but this has been a very much neglected subject in the colleges and many of us have had to work out our drug therapeutics in the school of experience. The speaker assumes a rational drug therapy. He deals in a

brief way with the long known specifics: quinine for malaria; mercury for syphilis. Then there are the near specifics such as insulin in diabetes mellitis; liver extract in pernicious anemia; pernicious vomiting of pregnancy by the use of intravenous dextrose solutions. Again drugs fill a useful role in the treatment of disordered function. The importance of correcting these disturbances consists in the possibility of breaking into the vicious circle of disease so that the correction of an auricular fibrillation may cure a dyspepsia due to a congested portal system. The iodine treatment of exophthalmic goitre particularly as an adjuvant in rendering advanced cases operable with the minimum risk, has been well emphasized.

The past decade has seen a great improvement in the use of digitalis in myocardial disease with or without valvular involvement. Marshall quotes Withering's (1785) advice as to proper administration of digitalis, "Let the drug be given in doses from one to three grains of the powder, twice a day. Let it be continued until it acts either on the stomach, pulse or bowels. Let it be stopped on the first appearance of these effects."

The importance of sedative medication is stressed in such conditions as essential hypertension and in those dyspepsias which appear to be the expression of a disordered nervous system. The writer defends symptomatic treatment on the ground that subjective symptoms may become so exhausting as to hinder recovery; pain or insomnia can serve no useful purpose. Hypnotics are rightly advocated only as a last resort. Finally in the assuredly hopeless case Marshall advocates keeping the patient comfortable. In such cases opium is indicated to the extent demanded by the symptoms present.

PROGRESS AND POVERTY

The Wayne County Medical Bulletin contains some impressive statistics in regard to the appropriations for charity in Wayne County alone for a year. The Community Fund asked for \$3,000,000; the Department of Health asked last year approximately \$4,000,000 and the Department of Public Welfare for Detroit another \$4,000,000 making the huge sum of \$11,000,000. According to W. J. Norton Secretary of the Detroit Community Fund, community chests alone in the United States last year raised \$75,000,000. This sum did not include money appropriated to public welfare

out of municipal treasuries. Not included in the sum collected in Wayne County is the amount of time that physicians of Wayne County gave without which a goodly portion of the money given to charity would be of little avail. Without them the clinics could not carry on. As a class the medical profession has assumed rather a larger share in this charity obligation than their comparative numbers would warrant.

Peculiar as it may seem, along with great wealth we have associated great poverty. Henry George, 50 years ago, coined the expression "Progress and Poverty" as the title to his memorable book which has had a tremendous sale since its publication. Henry George's contention is truer today than it was half a century ago when the greater part of the population was rural and in closer contact with the source of maintenance. It is said that at present those with incomes of \$10,000 and upward number only two-thirds per cent of the whole population; only 6 per cent have incomes of \$3,000 and 14 per cent are in the \$2,000 class. This means that 86 per cent of the people have incomes less than \$2,000 a year. Through high pressure salesmanship and the moving picture theaters and other ways of absorbing incomes many of these small incomes are spent before they are earned, leaving no provision for emergencies to which category illness belongs. So while the medical profession has nothing to say in regard to the distribution of moneys appropriated we cannot but be greatly interested in charity as a social problem. Broadly speaking while charity may evoke generous responses on the part of the giver, the increasing necessity for it indicates something wrong with our social and industrial life.

We have heard a lot about the so-called "dole" system of England. This is not such an evil as it seems from this distance. It partakes more of the nature of unemployment insurance to which both employer and employe contribute from their earnings when actively engaged at work. From the sum the employe draws when there is no work to be had. Some such scheme, profiting by the mistakes made abroad, may have to be tried here. The self respect of a great many workers would be preserved by a plan whereby in times of prosperity they could protect themselves against want. Such a plan would also reduce the amount of charity benefactions which is never a sign of healthy social conditions.

THE MEDICAL PROFESSION

"Among many important problems needing attention is the conduct of the medical profession. Able contributors have expressed the wide distrust and dissatisfaction of the people with the methods and fees of physicians and surgeons. The most noticeable and regrettable result of this is that a large part of us do not consult a doctor till we are down and out. The burden of all health articles in the press is, 'Don't try to treat yourself. Don't go to a quack. Consult your physician.' Of course we prefer to consult a competent doctor. But how are we to know which doctors are competent? And how are we to get the money to pay exorbitant fees? Are many doctors incompetent; and are fees too high? Even the doctors say they are. I see no relief in sight from this distressing condition. The only solution is one that is opposed not only by doctors but by professional and business people generally—that is, that doctors should be selected and employed by the State, and their advice should be as 'free' as is instruction in the public schools. Are we to be kept in our present plight by the bog of socialism? Must we retain an outgrown custom in deference to antediluvians?"

The above is a letter to Current History, one of the New York Times publications. We have it on good authority that the average gross income of physicians in one of the largest American cities is \$6,000 a year. This means that a great many physicians take in a great deal less than this amount. It is only too evident to those within the ranks of the medical profession that the remuneration they receive is not only not exorbitant but scarcely enough to make ends meet. And yet the sentiment expressed in this letter is becoming general all over the country, due largely to the disposition to associate the entire expense of illness such as hospital charges and the loss of income during illness and convalescence, with the attendant physician.

STILL THEY SEEK ADMISSION

The profession of medicine continues to be very attractive to those on the outside. Not that it is not attractive from the inside, however, but the present comment is directed toward the impression the medical profession makes on the outsider. And this is shown to no better advantage than the eagerness with which qualified young men seek to enter it. The total enrollment in the under-graduate department of the University of Michigan Medical School, Ann Arbor, is 637. The freshman class numbers 160, seventy-five of whom have either the B. A. or B. Sc. degree on entering, and a large percentage, probably the remainder, will have their B. Sc. degree before graduating. At the University nearly a thousand applications were actu-

ally filed for admission in the freshman class; only 160 were accepted.

The total enrollment in the Detroit College of Medicine and Surgery for the current year is 330, ninety-three of whom are freshmen. Six hundred students "from all over creation" sought admission according to a report by the Dean. The number actually accepted was less than 16% of those who sought the privilege of studying medicine in Detroit. About one-half of the registered students in Detroit, 146 to be exact, have academic degrees; 109 Bachelors of Arts and 37 Bachelors of Science. The remaining number have definite arrangements with the literary schools from which they came, whereby they will receive an academic degree upon the successful completion of one college year in medicine. There are 967 students pursuing their medical education at the present time in this State and all have met the stringent requirements demanded of them.

The profession of medicine seems to be the most popular. There would be a reason for this if medicine were characterized by its old-time independence. The long pre-medical training, together with the four year medical course and the one or two year hospital internship, renders economic independence an impossibility for at least ten years after entering college, presupposing that the candidate enter upon medical practice free of debt.

The cost of medical education, however, appears to be mounting. For the year 1926-27, according to the supplement of the third report of the commission on medical education, the average cost of medical training was about \$704.00 per year per student. The average student's fees paid was \$254.00 leaving \$450.00 to be made up by the State in the case of State schools or by endowment in the independent institutions. This does not of course represent the total cost to the student who must take care of such items as board and room, instruments, books as well as special laboratory and other fees.

When he gets out he finds that he has no small financial investment in addition to his time and effort which cannot be accurately computed in dollars. He feels that he must realize at once on his investment and accordingly grasps at the nearest prospect which is apt to be a small salaried position. And so the problem of supplying smaller municipalities with adequate medical service becomes increasingly difficult so far as a solution is concerned.

THE BEAUMONT LECTURES

The Beaumont Lecture Committee of the Wayne County Medical Society have procured a lecturer for 1930. The approximate dates are the 27th and 28th of January. The series consists of three lectures, the first given on Monday night and the second Tuesday from eleven o'clock to twelve o'clock, and the third Tuesday evening. As we have had occasion to explain before, the Beaumont lectureship grew out of a fund set aside during the war by a number of members of the Wayne County Medical Society. The income has been sufficient to reimburse the lecturer each year, as well as to defray the cost of publication of the series. The coming lecture will be the ninth in the series. The subject is of a basic nature pertaining to the medical sciences in the broadest possible way. In several instances the lecturer has made the occasion the opportunity of presenting for the first time the results of research upon which he had been engaged.

The lecturer for 1930 will be Dr. Thomas Wingate Todd, Professor of anatomy of the Western Reserve University, Cleveland. Dr. Todd is one of the leading anatomists of this country. He was born in Sheffield, England in 1885 and educated at Manchester University. He has been professor of anatomy at the Western Reserve University since 1912. Dr. Todd has done original work within recent years on the anatomy of the gastro-intestinal tract. He has appeared in Detroit several times and has been accorded a good audience each time. He is not only a clear and forceful speaker but has the rare quality in a speaker of possessing appropriate humor. An invitation is extended to members of the Michigan State Medical Society, wherever they may be located, to attend these lectures.

MEDICAL OPPORTUNITIES IN CHICAGO

Doctors in Chicago are in revolt against the tradition which forbids open advertising to their profession, and the Chicago Medical Society has just issued a manifesto defining the sort of advertisements that it thinks should be permitted. It is difficult to see why any kind of touting for customers should be necessary. Surely the only thing to do is to sit down like a gentleman and wait for the next bomb to blow a few perfectly good patients into the nearest consulting-room.—Manchester Guardian.

FIRST MICHIGAN TERRITORIAL MED- ICAL SOCIETY

In the custody of the medical library department of the Detroit Public Library is a volume in manuscript which is at least one hundred and nine years old. It is thirteen inches long by eight inches wide by one inch thick, board cover with leather back. It shows evidence of both its age as well as years of careful use. The handwriting is very legible, written at a time when writers wrote with "miser care." The ink is faded to a rich brown. Title of the volume, written in a bold hand, is "Laws and Ordinances of the Medical Society of the Territory of Michigan." The text occupies seven pages closely written, concluding with copies of the signatures of Lewis Cass, Governor, A. B. Woodward and John Griffin, both judges of the Territory of Michigan. The Territorial Medical Society was organized at Detroit January 11th, 1820. The articles of organization bear the signatures, copies of which are presented here, of William Brown, Stephen C. Henry, John L. Whiting, R. S. Rice, E. Hurd, William Thompson, Harry Conant, Marshall Chapin, Cyril Nichol, Amasa Hemenger, A. Edwards, Zina Pitcher, Ezra Parke, William Witteredge, David E. Lord, J. C. Davis, Justin Rice, C. W. Reid Webb, Henry Bradley, Ephraim Adams, Thaddeus Thompson, Lyman T. Penny, Thomas B. Clark, H. Loomis, John Hendrie, John Drake, Sterling W. Allen, Dennis Cooley,

The above Draft is respectfully submitted by
Stephen C. Henry
John L. Whiting
Detroit January 11th 1820.
Committee

Wm Brown
Stephen C. Henry
John L. Whiting
R. S. Rice
E. Hurd
Wm Thompson
Harry Conant
Marshall Chapin
Cyril Nichol
Amasa Hemenger
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H. Loomis
John Hendrie
John Drake
Sterling W. Allen
Dennis Cooley
C. McCollum
David L. Porter
Douglass Houghton
Robert McMillan

Illustration prepared for the new medical history of Michigan and here printed through the courtesy of Dr. C. B. Burr, the editor of the history.

C. McCollum, David L. Porter, Douglass Houghton and Robert McMillan.

This book served as a record of the minutes of the annual meeting to January

14th, 1851, when the last entry was made. The remainder of the book, comprising about one hundred pages, is left blank. This year (1851) the officers were: Dr. Zina Pitcher, President; Dr. J. Paddock, Vice-President; Dr. R. L. Rice, Treasurer, and I. B. Scovell, Secretary. At this annual meeting the principal event was the reading of an "interesting" paper on delirium tremens, supposed to have been induced by an excessive use of tobacco. Dr. Pitcher was appointed a committee from this society to attend the next examination of candidates for M.D. at the university. The meeting then adjourned.

From the humble beginning of one paper read at an annual meeting of the Territorial or State Medical Society, approximately sixty-four papers with discussions were presented at the last annual meeting of the Michigan State Medical Society. The Journal, which began humbly in 1901, as will be seen by the present volume, attains approximately nine hundred pages of reading matter exclusive of advertising, which is the largest volume ever published by this society in a single year.

MAGGOTS AND OSTEOMYELITIS

One of the speakers at the Interstate Medical Assembly held recently in Detroit proposed a novel method of treatment of osteomyelitis by permitting free access of maggots to the pathological area. We had hitherto associated the aforesaid embryologic stage of the fly with "graves, worms and epitaphs." They call to mind the old rhyme:

Did you ever think as the hearse rolls by,
That some day or other you must die?
In an old churchyard in a tiny lot
Your bones will wither and then they'll rot,
The worms will crawl up, the worms will crawl in,
They'll crawl all over your mouth and your chin,
They'll bring their friends and their friends'
friends too,
And you'll look like hell when they're through
with you.

R. M. Moore, the Harvard physiologist, has demonstrated an important effect of a protein meal upon the heart. It has been long realized that absorbed foodstuffs increase metabolism. The Harvard Professor estimates that after a meal of meat the increase in the heart rate amounts to 25 to 50 per cent rise above the fasting level. A protein meal throws an extra burden on the heart amounting to the heart's total performance during three or four hours under fasting conditions. This probably accounts for the fact that singers prefer to perform with the stomach

empty and will explain also the mediocre after dinner speech.

THE BLOOD AS A TISSUE

(Professor A. E. Boycott in the London Lancet.)

Besides being a carrier of food, excreta, and hormones, the blood is a tissue. As such it has a life of its own, malformations (e. g., acholuric jaundice) and tumours (e. g., leukaemia, splenomegalic polycythaemia), and can be studied for itself. There being no name for the total quantity of red corpuscles with the marrow cells from which they come, he suggested the word "erythron" as convenient. Hypertrophy of the erythron is caused by relative lack of oxygen whether this is due to high altitudes (anoxic type of Barcroft) or slowness of circulation (stagnant type), though in many cases of heart disease the associated increase in viscosity would be harmful and the reaction does not occur. Similar active growth (regeneration) in anemia is also due to anoxaemia (anaemic type). Atrophy of the erythron is caused by relative excess of oxygen as in compressed air, persons returning from high altitudes to sea-level, and after transfusion. Hypertrophy and atrophy are both conditioned by the needs of the animal; similar conditioned responses (atrophy and regeneration) in the liver and kidney in mammals, in the claws of prawn, and in the tentacles of a worm were considered. In all cases the result has the appearance of a purposive action, and it was urged that a frank acceptance of a teleological outlook made pathology more intelligible and formed a sound guide in investigation. The normal quantity of haemoglobin and its concentration in the blood is a compromise between the desirability of having plenty of oxygen and the disadvantage of having blood which is too viscous, the best balance depending on the rate of the circulation.

THE NEW STERILIZATION LAW OF MICHIGAN

H. E. Randall, M.D., Flint, Michigan

In the last half century cases of feeble-mindedness in the United States have at least doubled in number. The legislatures of various states (22 states) cognizant of the increasing cost of the care and maintenance of the mentally diseased, have passed Sterilization Laws in an effort to decrease the propagation of those unable to care for themselves. Sterilization laws have been upheld by the United States Supreme Courts.

The last legislature of Michigan passed a new Sterilization Law. The law defines a defective person as including not only all feeble-minded, but also the insane, epileptic, moral degenerates and sex perverts.

The operation of Sterilization can now be done legally in these cases either by a court order as in the former law, and by consent provided that the guardian and nearest of kin also sign with the patient. This means three signatures to a written consent. The third method is the procedure required to sterilize an inmate in a state institution. Here the medical superintendent of a state institution certifies that the patient is a mentally defective person and recommends that such person be sterilized to the governing body and to the state Welfare Commission who after investigation, must either obtain a written consent as in the second method, or file a petition in the probate court for an order of Sterilization.

THE EDITOR'S EASY CHAIR

PROGRESS AND MEDICINE

This title is suggested by Christopher Dawson's recent book *Progress and Religion* in which the author declares that the doctrine of progress was first clearly formulated by the Abbe de St. Pierre after the close of the war of the Spanish Succession (1713 the date of the Treaty of Utrecht) when he conducted propaganda for the formation of a tribunal which should eliminate all future wars in Europe. For over two centuries it has dominated the European mind to such an extent that any attempt to question it would have been regarded as rank heresy. Up to the end of the sixteenth century what we now understand by the term progress had very little meaning. Society was to a large extent static. Some very cultured people are inclined to think that we lay too much stress on what we call progress. Listen to Count Keyserling.* "The earth existed for millions of years before man began to be a nuisance on it, man has remained essentially a child of the earth, even though he rules it. This is true in any case, in the sense that there is no lasting happiness for man unless he is in harmony with its rhythm. And this means that the only state which can endure is a comparatively static state."

We can hardly conceive what the absence of modern transportation facilities meant. Even much less than two centuries ago transportation was confined to muscle-drawn vehicles and to sail boats and as a consequence the great majority of people travelled but little or not at all. The means of locomotion were so primitive and the roads so abominable that provincial differences in speech and customs prevailed almost universally. The printing press, improvements in transportation and lastly the telegraph and radio are the great factors which tend to promote uniformity and with it progress.

Probably there was no time, however, in the history of mankind when change was wholly absent. When we speak of society as being static we do not mean a condition of stable equilibrium.

"The past has flown away,
The coming month and year do not exist;
Ours only is the present's tiny point,
Time is but a fancied dot ever moving on
Which you have called a flowing river stream."

Change is a characteristic of life itself. We are always undergoing a stage of transition but the movement varies, now slow, now fast. It must have been somewhat accelerated during the time of the ancient Greek poet who wrote that "Zeus is dethroned and Whirl is King." The period mentioned, namely, the seventeenth century, was one of voyaging and colonization which without doubt hastened change.

PROGRESS AN ADVANCE TO BETTER THINGS

Everyone would wish to define the term progress as an advancement to better things or as Dawson says: "The doctrine of progress in the full sense must involve the belief that every day and in every way the world grows better and better."

Scientific discoveries aid in the production of other discoveries. No man liveth unto himself. He reaps not only what those who have gone before him have sown, but whatever he transmits to posterity is what he has received and transformed. Roger Bacon, the lone star of the thirteenth century, was a helpless and unpopular victim of the prejudice of his age and was as powerless as Newton would have been had his lot been cast four centuries earlier. Progress is possible only when the lot of genius is cast in an appreciative age. The soil must be prepared but as soon as the material benefits of discovery and invention are evident the age of appreciation soon follows. Even as I write, a huge celebration is being held in Detroit in honor of Thomas Edison who has made many practical applications of electricity, while the work of Faraday and Clerk Maxwell is either forgotten or has never been known to the masses.

During the so-called dark ages very little of what we call progress today occurred and none of which the inhabitants of the time were conscious. They were content to look to the past, to Galen in medicine and to Aristotle in philosophy. And yet before the Reformation the people were evidently both numerous and contented. One cannot but be impressed in travelling in Europe with the huge cathedrals and castles, many in ruins, which were costly to build, requiring many men to erect them. There is evidence that many of the European countries must have been nearly as populous as today, and considering the fact that communication and transportation were almost wholly lacking, the countries must have been capable of producing each its own food supply. (Regarding communication, as late as 1815 it took four days for the news of the victory over Napoleon at Waterloo to reach London. The battle was fought June 18th and the first account appeared in the London Times June 22nd.)

THE NEW BIRTH OF ANATOMY

The scientific revival about the fifteenth century resulted in a new interest in anatomy. Dissection came to be more widely practised though it was not until one hundred years later that Galen's views were openly discussed and criticized in the universities. Some of the earliest workers in anatomy, however, were really not anatomists at all but artists who realized that a knowledge of bones and muscles was needed for their art. Such as Michaelangelo, Raphael and the Greatest of all Leonardo da Vinci (1452-1518). According to the British Medical historian Singer, da Vinci's achievements in science were as remarkable as his works of art. The first anatomical text book the result of direct observation, was by Andreas Vesalius of Brussels (1514-1564). This was the *Fabric of the Human Body* (1543) a landmark in the History of Science styled by Singer "the first great positive achievement of science in modern times." The immediate effect of the new knowledge was an improvement in surgery particularly that of the army surgeons who had ample opportunity to apply their knowledge during the fierce and prolonged religious wars of the sixteenth and seventeenth centuries. The most prominent of these surgeons to reap the benefit of the anatomical work of Vesalius was Ambroise Pare (1517-90). Pare did much to advance surgery from the crude handicraft of the barber surgeon.

As yet there was no science of Internal Medicine inasmuch as up to and for some time following Vesalius' work there was no scientific physiology. The idea of "the four humors" per-

* Atlantic Monthly, November, 1929.

sisted. The founder of modern Internal Medicine was William Harvey** (1578-1657). Following his work we have that of the English Hippocrates, Thomas Sydenham, "The Method of Treating Fevers" (1666). As great activity was manifest in other fields, such as physics and astronomy, so that the seventeenth century opened with a great wealth of scientific discovery, each especially chemistry, physics, botany and biology supplementing and assisting one another. The names of workers in the various fields of experimentation and scientific thought of the seventeenth century would form no inconsiderable catalogue.

THE MICROSCOPE AND MINUTE ANATOMY

Notable is the fact that the compound microscope first made into an effective instrument by Galileo (1564-1642) preceded the work of the minute anatomist Malpighi (1628-94). Contemporary with Malpighi was also the Dutch microscopist van Leenwenhoek (1632-1723).

Singer† describes the period from about 1700 to 1825 as that of consolidation. "During the sixteenth and seventeenth centuries the human mind cast off its mediæval vestments, and having refreshed itself at the spring of antiquity turned to array itself in the garments of the new philosophy. The advent of new ideas and new knowledge had been determined by Galileo at the beginning of the seventeenth century. The meaning of Research was determined by a second great investigator, Newton, at the end of the same century."

NEWTON AND THE SCIENTIFIC METHOD

Above all things Newton was most responsible for ushering in the age of the Reign of Law. The laws of nature are as much within us as without. The previous age or period was one of vast accumulation of knowledge along diverse lines. The period from 1700 witnessed order reduced from the scientific chaos. The progress of any science is not to be measured, however, by the quantity of observations accumulated by its votaries but by the degree it succeeds in bringing the numerous observations under general laws. The nineteenth and twentieth centuries have witnessed great advances in all sciences and the genuine observations of all have been reduced for the most part to definite laws. We see this in chemistry, in physics, less apparent perhaps in biology, and all have imparted this order to medicine which is also an art as well as a science. So medicine has undergone real progress accelerated by the ancillary sciences of the past fifty years together with the fact that communication all over the world is all but instantaneous, if necessary. Medical science knows no national boundaries. Its tested facts are the property of the entire world. With apologies to Kipling:

There is neither East nor West,
Border nor breed nor birth,
When two medical men stand face to face
Though they come from the ends of the earth.

Whatever may be said of progress in general by such men as Keyserling or Bertrand Russell there is no question but that progress in the medical sciences has been for the betterment of mankind.

**The work of Harvey has been dealt with at length, see Vols. XXVII, XXVIII of the Journal of the Michigan State Medical Society which contains a complete revision of the chapter on Harvey in my book *Pathfinders of Physiology* (1914) including the tercentenary celebration of Harvey's great work *De Motu Cordis*.

† A Short History of Medicine. Charles Singer, Oxford University Press.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The Annual Conference of State Secretaries, including also the Editors of State Medical Journals, was held in Chicago at the American Medical Association headquarters on November 15th and 16th.

Among the high lights of the Inter-State Post-Graduate Congress was the presentation of a medal to Thomas A. Edison in recognition of his services to the world, and to Henry Ford, Honorary membership in the Association, as a mark of appreciation of his services to medical science.

Twenty-four hospitals in and around Detroit have been placed on the list of fully improved institutions for the coming year by the American College of Surgeons at the opening session of the 12th Annual Standardization Conference of the organization at its recent meeting in Chicago.

As this Journal goes to press news has been received of the death of Dr. V. C. Vaughan, for many years Dean of the Medical Department of the University of Michigan. In the January or February number of The Journal will appear an article on the life and work of Dr. Vaughan.

The East Side Physicians Association of Detroit, Michigan, was addressed by Dr. Harrison S. Collisi of Grand Rapids, October 31st, at the Michigan Mutual Hospital on the subject of "Civic and Industrial Relations." Dr. Grove C. Penberthy of Detroit supplied the clinical part of the program.

Dr. B. R. Hoobler of Detroit who has recently returned from a ten months' travel voyage around the world, gave an illustrated address before the Wayne County Medical Society on the evening of October 29th. Dr. Hoobler's address was illustrated by several reels of moving pictures, illustrating scenes in Africa and Asia.

Dr. Angus McLean of Detroit delivered an address before the Polish Medical and Dental Association at its convention held recently in Detroit. His subject was "Medicine as Taught in the Universities of Cracow and Warsaw." One of the famous students of Cracow was Copernicus who first studied medicine and afterwards astronomy. Dr. McLean visited both universities during his visit to Poland in 1927.

Dr. James T. Case, connected with the Battle Creek Sanitarium for the past twenty-five years as roentgenologist and surgeon, has entered practice in Chicago in connection with the Evanston Hospital, and the new Passavant Memorial Hospital, and will continue his professorship of roentgenology at the Northwestern University. He will continue his connection with the Sanitarium as visiting surgeon. — Bulletin Calhoun County Medical Society.

At the Eighty-Fifth Annual Meeting of the Northwestern Ohio Medical Association which met at Findlay, Ohio, October 8th, addresses were

made by the following members of the Michigan State Medical Society: The Relationship Between Certain Allergic Manifestations and the Endocrine System, Dr. Carleton J. Marinus, Detroit; Lesions of the Face and Oral Mucous Membrane, Dr. George H. Belote, Assistant Professor of Dermatology and Syphilology, University of Michigan; The Management of Ano-Rectal Fistula, L. J. Hirschman, M. D., Detroit, immediate past President of the Michigan State Medical Society.

Dr. C. S. Gorsline, president of the Michigan Association of Industrial Physicians and Surgeons, in a letter to members of that organization, reports some results of the enthusiastic meeting held at Jackson in conjunction with the annual meeting of the State Medical Society. With the letter goes a questionnaire for suggestions and recommendations as to the subjects and methods that should be considered in efforts toward solution of the various industrial health problems. Dr. Gorsline also invites all members of local medical societies, who may wish to affiliate with the industrial physicians association, to communicate with the secretary.

The employees of the Mueller Brass Company of Port Huron have presented the sum of \$18,000 to the project of the erection of a new hospital for the city of Port Huron. This sum was the accumulation of the employees towards a mutual aid society. The Mueller Brass Company has taken out a group insurance policy covering their employees for life, accident and sickness. On hearing of the action of his employees Mr. O. B. Mueller, President of the company added the sum of \$32,000 as the donation of his company to this fund. In the near future a campaign will be undertaken in Port Huron for the sum of \$500,000 for the erection of an up-to-date hospital.

The National Committee on the Cost of Medical Care will shortly carry on an investigation of the medical situation in Detroit. Detroit being one of the largest purely industrial cities on the continent the findings will be of great interest to the profession of the whole state as well as the profession of Wayne County. A committee has been appointed by the council of the Wayne County Medical Society to co-operate with the investigator, Dr. N. Sinai. Dr. Sinai is already known to many members of the medical profession of Wayne County and the state as he has worked under Dr. Henderson in connection with the joint committee on public health education. He is a man in whom all factors concerned in the investigation may place the fullest confidence.

"The next meeting of the Radiological Society of North America will be held at Toronto, December 2nd to 6th, inclusive. Headquarters at the Royal York Hotel. The facilities and accommodations at this hotel are the best in the history of the Society and we expect to have a banner meeting in every way. The Scientific Program, Clinics, Scientific and Commercial Exhibits will be of the highest character and exceedingly interesting and instructive. The program will be interesting not only to the radiologists, but to the physicians practicing other medical specialties and general practice as well. A cordial invitation is extended to all physicians as well as radiologists to attend the Toronto meeting. Secure reservations at once through Dr. W. C. Kruger or Dr. G. R. Reid, 20 College Street, Toronto, Canada.

da. Excellent arrangements have been made to take care of the visiting ladies."

PROGRAM
of the
FOURTH ANNUAL CLINIC
of the
HIGHLAND PARK PHYSICIANS CLUB
at
HIGHLAND PARK GENERAL HOSPITAL
Thursday, December 5, 1929

- 8:00 Weekly Clinical Pathological Conference, Highland Park General Hospital.
- 8:40 Address: "Focal Infections."
Joshua G. R. Manwarring, M.D., F.A.C.S.,
Director General Surgery Hurley Hospital,
Flint, Michigan.
- 9:20 Address: "Physical Agents in the Commoner Affections of the Skin and Accessible Mucous Membranes." Illustrated with lantern slides.
Edwin N. Kime, M. D., Department of Medicine, Director of Physical Therapeutics, University of Indiana, Indianapolis, Indiana.
- 10:00 Address: "The Economic and Physical Advantages of Gynoplastic Repairs after Delivery." Illustrated.
Jacob L. Bubis, M.D., F.A.C.S., Associate in Obstetrics, Senior Assistant, Gynecology and Surgery, Mt. Sinai Hospital, Cleveland, Ohio.
- 10:40 Diagnostic Clinic. (Cardio-Vascular-Renal Problems).
George C. Hale, M. D., Dean and Professor of Medicine, University of Western Ontario, London, Ontario, Canada.
- 11:20 Diagnostic Clinic. (Thyroid).
Andre Crotti, M.D., F.A.C.S., Professor of Clinical Surgery, Ohio State University, Columbus, Ohio.
- 12:00 Address: "Cardiac Decompensation."
Charles S. Williamson, M. D., Professor of Medicine, University of Illinois, Chicago, Illinois.
- 1:00 Noon Intermission. Complimentary lunch in Hospital Dining Room.
- 2:00 Address: "The Prophylaxis and Treatment of Some of the Infectious Diseases of Childhood."
Isaac A. Abt, M. D., Professor of Pediatrics, Northwestern University Medical School, Chicago, Illinois.
- 2:40 Diagnostic Clinic. (Childhood Limps).
George A. Ramsay, M.D., F.A.C.S. Professor of Surgery, Western University Faculty of Medicine, Orthopedic Surgeon to St. Joseph's Hospital, London, Ontario, Canada.
- 3:20 Address: "The Conservative Treatment of Compound Fractures." Illustrated with lantern slides.
Walter G. Stern, M.D., F.A.C.S., Chairman, section on orthopedic surgery, American Medical Association, Cleveland, Ohio.
- 4:00 Address: "Management of Eclamptogenic Toxemia."
Frederick H. Falls, M.D., M.S., B.S., Pro-

fessor of Obstetrics and Gynecology and Head of Department, University of Illinois, Chicago, Illinois.

4:40 Address: "Etiology and Treatment of Pregnancy Toxemias." Illustrated. Paul Titus, M.D., F.A.C.S., Obstetrician and Gynecologist St. Margaret Memorial Hospital, Pittsburgh, Pennsylvania.

5:20 Diagnostic Clinic: (Stomach and Gall-bladder). Chas. Phillip Emerson, M. D., Dean and Professor of Medicine, Indiana Medical School, Indianapolis, Indiana.

6:30 Dinner: Masonic Temple, Highland Park, Michigan. (Ladies invited).

Invocation:

Chas. Stanley Jones, Pastor Congregational Church, Highland Park, Michigan.

Address of Welcome:

Hon. John C. Shields, Mayor, Highland Park, Michigan.

Address: "Fundamental Americanism."

Mr. Gus W. Dyer, the outstanding orator of the middlewest, Vanderbilt University, Nashville, Tennessee.

Music: Ray Swartzbaugh, conducting.

DEATHS

Dr. M. J. Spranger

Dr. Spranger of Detroit, died on October 24th, at the ripe age of 84 years. The deceased was born in Munich and moved to the United States, the family settling in Pittsburgh in 1849. Later the son graduated from the Cleveland Homeopathic College and also the Detroit Homeopathic College. He had practised in Detroit continuously since 1877.

Dr. Thomas W. White

Dr. White of Detroit, died October 2nd, 1929, at 7834 Van Dyke Place. Dr. White was born in Richmond, Va., 1884. His university work began at the Virginia Military Institute as a member of the class of 1903 (chemistry). In 1910 he graduated from the University of Louisville in Medicine. Following his graduation he served two years in the Willard Parker and Children's Hospitals, New York, during which time he worked under the late Dr. Holt. He has practiced for the past 14 years in Detroit, specializing in pediatrics. Dr. White had a wide and influential circle of friends, he was an active member of the Detroit Country Club, Detroit Club, Indian Village Club and University Club. He is survived by his widow, Mrs. Lucy White, one brother, Mr. G. G. White and three sisters, Mrs. A. P. Wilmer, Mrs. Marvin Gorham and Mrs. J. C. Carpenter.

From the Wayne County Medical Bulletin.—

Dr. Florence Chadwick

Dr. Florence Chadwick died October 31, 1929 at her home in Bridgewater, Connecticut, following an illness of several months. Dr. Chadwick was born in Massachusetts on November 13, 1878 and received her early education in the Boston schools. She was graduated from the University of Michigan Medical School in 1912; spent her

interne year in the New England Hospital for Women and Children; and later was resident physician at the Woman's Hospital, Detroit, Michigan. Following this she established her office in Detroit and practiced there for the last 16 years. Dr. Chadwick was a member of Sigma XI, and Alpha Omega Alpha, honorary scientific fraternities; of Alpha Epsilon Iota, Medical Sorority; was a member of the State, County and American Medical Societies; the Blackwell Medical Society of Detroit; and a Fellow of the American College of Physicians.

At the time of her death she was attending physician at the Woman's Hospital, Junior attending at the Harper Hospital Outpatient Department. She was also examining physician for the Visiting Nurse Association, for the Children's Aid Society and Consultant for women at the Highland Park High School.

In Memoriam—Mrs. Sawyer

The friends of Dr. Walter H. Sawyer are grieving with him because of the death of his wife which occurred November 6th at her home in Hillsdale.

The designation "friends" in this connection applies to all of his professional acquaintances and associates, but sorrow is especially and keenly felt by those whose privilege it had been to know the sunny, charming and accomplished Harriet Mitchell Sawyer.

She was born in Hillsdale and lived there continuously during early years and married life; was a daughter of the late Honorable Charles T. and Harriet Wing Mitchell. They were pioneers of Hillsdale County of country-wide acquaintance and influence. Mr. Mitchell was prominently identified with the social, political, eleemosynary and educational affairs of Michigan. The Mitchell name is perpetuated through many useful gifts to the City of Hillsdale, among them the Mitchell Public Library on the old homestead site, and the clock and chimes in the Court House tower.

Mrs. Sawyer was educated in the Hillsdale schools, at Brown Seminary, Auburn, N. Y., and at Miss De Janons Gramercy Park School, New York.

Benevolent, of delightful personality, with an abiding sense of humor, deeply interested in all that concerned her neighbors' welfare, she was esteemed and beloved. In church activities and every worthy local enterprise she took praiseworthy part. She was prominently identified with the Colonial Dames of America and was Past Regent of Ann Gridley Chapter, D. A. R. She was Patroness of Pi Beta Phi, held membership in the Needlework Guild and in various clubs and societies at home, in Detroit and Ann Arbor. She had active part in war work as Vice-Chairman of the Council of National Defense and Chairman of the Children of Southern France Committee of the D. A. R. She was studious, cultured, companionable, a discriminating appreciator of art, literature and music. Above all, she was a devoted mother and the adorable grandmother of two promising boys, sons of Thomas Mitchell and Ruth Fisher Sawyer.

She bore invalidism cheerfully and uncomplainingly for many years and rarely if ever permitted this to interfere with the exigent duties which wifehood, motherhood and social position involved. Indeed, in the days just preceding her death which occurred suddenly in early morning, she had been ministering constantly to the comfort of the Doctor, himself a sufferer from a pain-

ful infection which necessitated close care and watchfulness.

Her life was complete and beautiful. Serious vicissitudes along its way were not escaped but she never lost courage in adversity and invariably exemplified charity and good will.

The Journal and its clientele extend fullest sympathy to her husband, her son and his family and to friends and relatives to whom her continued presence on earth meant so much. They would, if it were possible, lighten the blow which has fallen so heavily upon Walter, and contribute to his strength and fortitude.

—C. B. Burr.

COMMUNICATIONS

WHAT THEY SAID 50 YEARS AGO

Editor,

Journal Michigan State Medical Society: Of more than passing interest at the present moment are the following predictions and comments, discovered during research in medical history, in a journal published fifty years ago:

"Edison believes he will yet be able, by passing an electric burner into the stomach, to illuminate the interior of the body." (1879)

"Edison, having failed, at least not having succeeded, in perfecting his electric light, has turned his attention to quackery, and is said to have invented a specific for rheumatism, which will probably soon take the place of St. Jacob's Oil on our fences and dead walls. He is also reported to have discovered a new anesthetic. There is nothing like medicine as a field for the display of genius." (1880)

"The excitement following the announcement that Mr. Edison had discovered a method of dividing the current so as to make electricity available as a light for domestic use subsided as soon as the first effort of that gentleman to reduce his theory to practice proved a failure." (1880)

Verily the ways of journalism—medical and lay—are often past finding out.

C. B. BURR.

November 21, 1929.

Michigan State Medical Society,
Grand Rapids, Mich.

I am beginning to receive comments from insurance companies on the action taken by the State Society, embodied in the resolutions. To date the majority of comments are favorable. There are a few that bring up some interesting questions.

1. That it seems unusual for one state medical society to take such action when the societies in other states have not done so. (Michigan has begun what the other states will do in the future.)

2. That the applicant, and not the insurance company, is responsible for the payment of any fee for filling out claim proofs. (This is quite true, but in any event physicians should use their judgment in charging either the applicant or insurance company. If the information is requested by the insurance company, they should pay for it;

if requested by the applicant, then he should pay for it. It is quite likely that certain of the insurance companies will reimburse the applicant or pay the physician direct for these reports, and, of course, will ultimately get the most business. The other insurance companies will have to fall in line in order to compete with companies providing fees. Physicians should be notified of this situation.)

3. That the study made by the Civic and Industrial Relations Committee represents only one side of the question because the physicians haven't consulted the medical executives of the insurance companies. (Possibly it does not occur to the insurance companies that physicians have a right to charge for services rendered to any individual, company or organization, and that our own conclusions drawn in this matter really are the privileges of the physicians. However, the committee has endeavored to be fair by making an unprejudiced study of the situation from information received from the insurance companies.)

4. That insurance companies desire further information as to the personnel of the committee.

5. That insurance companies feel that the matter should have been taken up with the State Insurance Department. (The committee feels this is again the privilege of the physician to charge for any service rendered.)

6. That some insurance companies are inclined to look upon the whole proposition with considerable degree of criticism.

These are just some of the reactions that I have gained from the replies received and while I do not care to have the letter published in the Journal, would it not be a good idea for you to embody these things in a communication which can be published in the State Journal?

Further, after talking with Dr. Corbus, we feel that each county society should receive a communication from you, as State Secretary, calling attention to the resolutions and the action taken, specifically requesting county secretaries to inform their members and ask them to stand by the resolutions, for if the individual physicians do not exercise their rights relative thereto, the insurance companies will naturally wonder why one physician is charging when another is not. This matter is too important to let it pass by without unified action on the part of physicians.

Again let me state that I do not wish to have this letter published. I am only giving you the information so that it may be passed on to the profession at large in the proper form of communication.

Very sincerely,

Harrison S. Collisi,
Chairman, Committee on
Civic and Industrial Relations.

Houghton, Mich., October 31, 1929.

Dear Dr. Warnshuis:

We recently had the conference sent by the State Medical Society at Houghton, Mich., at which time Dr. O'Donnell, Dr. McKean and Dr. Richard Smith appeared. Richard Smith is always good, but I wish to especially compliment you on the choice of Doctors McKean and O'Donnell because of their wonderful presentation of their subjects with thoroughness, accuracy and dispatch. They certainly gave us the new things in their subjects, and I felt that a personal appreciation was due them and due you. It was the

consensus of opinion amongst others who were present.

Sincerely yours,
Simon Levin, M. D.

Lake Linden, Mich., November 4, 1929.

Dear Dr. Warnshuis:

I want to thank you personally for the post-graduate conference you gave our county on October 30, and wish to convey officially the thanks of our society to you for the most helpful and timely papers which were given to us.

We want to thank the doctors who so kindly gave of their time so generously in order to make these post-graduate conferences possible. Doctors Smith, O'Donnell and McKean have our deepest appreciation for their excellent papers. Dr. Smith, with many years of experience to his credit, gave us lots of food for thought. Doctors O'Donnell and McKean gave us most timely and practical papers, and we appreciate very much these young men's masterly manner of handling their subjects.

We will look forward next year to another successful conference. We had an average attendance of 21 members for the conference.

I wish to state also that the Secretary of Houghton County Medical Society will attend the County Secretaries' meeting in Chicago during January, 1930.

I remain,

Very truly,
T. P. Wickliffe, Sec'y.-Treas.

Detroit, Mich., November 6, 1929.

Dear Dr. Warnshuis:

In reading over the official minutes of the annual meeting in the last issue of the Journal, I notice on page 802 that I was credited with introducing the resolution concerning the matter of an executive secretary and likewise in the two instances following in the discussion. This resolution and the discussion which follows under my name was introduced by Dr. C. J. Barone, 26 Waverly avenue, Highland Park.

Another correction which I believe should be made in the resolution immediately preceding and introduced by Dr. Rupp in regard to service in free clinics, the last sentence as stated reads, "This shall not exclude any temporary emergency or first aid treatment." This, if I remember correctly, was put as follows: "This shall not include any temporary emergency or first aid treatment."

I believe a careful examination of the minutes will show these changes to be correct.

Yours very truly,
E. C. Baumgarten, M. D.

MICHIGAN DIPHTHERIA STUDY
1928

(Cities over 10,000 Population)

Group I is the blue ribbon group of cities in diphtheria prevention. In these cities there were NO CASES AND NO DEATHS during the entire year of 1928. Marquette, with a population of 12,000, and Traverse City, with a population of 10,000, are in the select group among the cities of the state, in respect to diphtheria prevention.

Grand Rapids, being the second largest city in the state, has a difficult problem but attained the desirable goal of no deaths from diphtheria during 1928. Grand Rapids was the largest city in the United States that had no diphtheria deaths

during 1928. This distinction comes to Grand Rapids after five years of intensive and constructive work with toxin-antitoxin.

Jackson, with a population of 63,000, made a remarkable reduction in its diphtheria rates. The occurrence of one case, however, removed it from Group I. This fine record has been achieved after four years of intensive work with toxin-antitoxin.

Alpena, Monroe and Holland missed the select group because of the existence of one case in each city. These cities have given toxin-antitoxin to practically the entire school population. When the pre-school children can be reached with toxin-antitoxin, these cities will take their place in Group I.

In Group III are found cities having cases and deaths from diphtheria but with case rates lower than the rate for the entire state.

Diphtheria is an absolutely preventable disease as the record in the cities of the first two groups of cities clearly demonstrates. Physicians and health officers must work together to convince the people of this before this disease will ever be banished. When these facts are placed before intelligent people, they will become sufficiently sensitive to the occurrence of the disease that they will do their important part in its prevention.

Group IV includes Lansing, the capital city, and Detroit, the state's largest city, with four of its surrounding cities: Hamtramck, River Rouge, Wyandotte and Pontiac. The three cities having the highest diphtheria case rates were Owosso, Muskegon Heights, and Iron Mountain. These three cities are each about 10,000 in population but have used only negligible amounts of toxin-antitoxin.

Iron Mountain has the unenviable record of having the highest diphtheria case rate. This case rate is three times higher than the general rate for the state. Likewise, the diphtheria death rate in Iron Mountain was three times as high as the general rate for the state.

Detroit, the fourth largest city in the United States, made another record in "fourths" as it was fourth highest in the state in case rates (144 per 100,000 population) and fourth highest in death rates (16 per 100,000 population).

MICHIGAN DIPHTHERIA STUDY
1928

(All Cities over 10,000 Population)

Total Cases in State	3,725
Total Deaths in State	385
Case Rate	82.8 per 100,000 population
Death Rate	8.6 per 100,000 population

GROUP I. Cities with No Cases and No Deaths:

City	Population
Marquette	12,000
Traverse City	10,000

GROUP II. Cities with No Deaths:

City	Population	Cases
Grand Rapids	164,000	31
Jackson	63,000	1
Ann Arbor	19,000	4
Ironwood	15,000	2
Escanaba	13,000	6
Holland	12,000	1
Sault Ste. Marie	12,000	6
Monroe	11,000	1
Alpena	11,000	1
Ishpeming	10,000	7

GROUP III. Cities with Case Rates LOWER than Entire State:

City	Case Rate per 100,000 population	Death Rate per 100,000 population	Ratio No. of Re- prtd Cases to Deaths
State	82	8	
Adrian	30	7	4
Benton Harbor	32	6	5
Highland Park	33	4	7
Kalamazoo	33	3	9
Muskegon	45	8	5
Port Huron	51	12	4
Flint	59	3	17
Battle Creek	69	2	33
Saginaw	80	4	20

GROUP IV. Cities with Case Rates HIGHER than Entire State:

City	Case Rate per 100,000 population	Death Rate per 100,000 population	Ratio No. of Re- prtd Cases to Deaths
State	82	8	
Pontiac	91	8	11
Hamtramck	92	8	11
River Rouge	109	6	16
Lansing	125	1	100
Wyandotte	135	27	5
Detroit	144	16	8
Owosso	218	13	16
Muskegon Heights	250	18	13
Iron Mountain	290	24	12

FEET FOREMOST.*

Do you lack determination?
Are you short of concentration?
Are there signs of hesitation
Where there should be vim and pep?
Then accept the kind tuition
Of a Harley Street physician
And observe his admonition—
You had better watch your step.

You should let yourself be guided
by the wisdom thus provided,
Which would seem to have decided
That your brains are in your feet;
Full of stamina and starch is
He who resolutely marches
On a pair of pedal arches
All corrected and complete.

You will feel in finer fettle,
And a man of braver mettle,
When efficiency can settle
In its unsuspected roots;
Life, no longer an affliction,
Will have lost its fret and friction
With the comforting conviction
That your heart is in your boots.

So the moral is as stated—
Get your arches renovated,
Underpinned and regulated,
With the very least delay.
Are you older, balder, fatter?
Never mind—it doesn't matter;
But if once your feet get flatter
There's the deuce and all to pay!

* "Flat feet are undoubtedly the cause not only of ill-health, but of nerve-strain, lack of energy and concentration. It is impossible for anyone with a fallen arch to be 100 per cent efficient." Yet another pronouncement from the inevitable "Harley Street physician."—Manchester Guardian.

ADRENALIN DEPOTS MAY FORM UNDER SKIN

Discovery by Dr. A. B. Luckhardt of the University of Chicago and Dr. Theodore Koppányi of Cornell University Medical College, that adrenalin forms depots when injected under the skin has opened the way for a new method of treatment of certain diseases. Adrenalin has long been used to raise the blood pressure, particularly in cases of shock following severe injuries or operations, and because of its relaxing effect on the bronchial muscles it has been used effectively in treating bronchial asthma. However, to produce the desired effect, the adrenalin had to be injected directly into a vein, and for each attack a fresh injection of adrenalin had to be made.

Drs. Luckhardt and Koppányi have shown in dogs that adrenalin is capable of elevating the blood pressure even if injected beneath the skin, but they have also discovered the conditions under which the blood pressure elevating effect of the adrenalin injected beneath the skin may be elicited. They found that about fifteen minutes after the injection of adrenalin underneath the skin, when the injected area was gently massaged, there was at once a very considerable and protracted rise in blood pressure.

Deep anesthesia militates against the effective elicitation of this response, and this is the reason why previous investigators failed to get blood pressure rises following adrenalin injections beneath the skin. Drs. Luckhardt and Koppányi have pointed out that adrenalin injected beneath the skin remains there for some time, and it was even possible to produce blood pressure rises from massaging such areas which had been injected twenty-four hours before the massage.—Science Service.

INFANTILE PARALYSIS APPROACHES LOW LEVEL

The period for the lowest level of infantile paralysis cases is approaching, the U. S. Public Health Service has announced. From the first of December until the first of June about one case of the disease per 100,000 of population will occur, health officials prophesied.

During the second six months of every year, that is from June 1 to December 1, from four to fourteen cases occur per 100,000. The greatest incidence is reached in mid-September when an average of two cases in three weeks per 100,000 occurs. Ever since the big epidemic of 1916, the month of June has been the cause of special vigilance on the part of public health officers, who watch with concern a definite rise that occurs every year in June.

"The measures through which might be expected a real diminution of incidence are those which diminish human contacts in general, but the drastic closing of all places of assembly is justifiable only with a very high incidence of, say, five or ten times the usual, and even in such a case the long incubation period would make it likely that in a restricted community the actual spread of the infection had begun to diminish before the alarm was sufficient to resort to such extremes," the report stated.

Fewer cases of the disease occur in the warmer parts of the United States, but the seasonal distribution is about the same, proportionately, as it is in the North.—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

SEASONAL GREETINGS

A most cordial wish for a truly Merry Christmas is extended to our members, readers and advertisers. It is a season in which joy and merryness should prevail, affording opportunity for conveying to fellowmen expressions of appreciation and friendship. The year may have had its trials and tribulations. Adverse experiences may have evidenced themselves so that at times the days were dark and friends apparently had forsaken you. And yet you carried on so that now you find the Yuletide at hand. Whatever your experiences or lot, you must indeed be woefully bereft if you cannot find here and there sufficient evidence to submerge the untoward encounters and join in on these Christmas festivities. Our wish is that it be a most Merry Christmas.

ANNUAL CONFERENCE OF COUNTY SECRETARIES AND MID-WINTER SESSION OF COUNCIL

So successful and profitable was the last year's Conference of County Secretaries that was held at the A. M. A. headquarters in Chicago that the Council has decided to repeat that program.

The Council will convene at 10 a. m. on January 22. At 6 p. m., the Council will join the Secretaries at dinner in the Drake hotel. After the dinner there will be pertinent talks by officers of the society and of the American Medical Association. The following morning, the 23rd, the Council and Secretaries will meet at the association headquarters at 9:30. A series of talks will be given by bureau and council heads. Luncheon will be served, to be followed by a tour of inspection of the A. M. A. buildings.

This is a preliminary announcement. The detailed program will appear in the January issue. County Secretaries are requested to bear the date in mind and plan to attend.

FILLING INSURANCE CERTIFICATES

In the September issue the report of the Committee on Civic and Industrial Rela-

tions was published. The House of Delegates at the Jackson Annual Meeting unanimously adopted this report concurring in the recommendations of the committee. Our members are urged to comply. These resolutions provide:

1. That physicians charge not less than \$2.00 to Old Line Life Insurance companies for rendering special reports on the health and physical conditions of prospective applicants for insurance who have been patients of the physician from whom the report is requested—the fee to be increased according to the degree of service rendered.

2. That physicians charge a fee of not less than \$2.00 for each preliminary and final claim proof made for the patient for health and accident policies.

As far back as fifteen years ago your Secretary has urged this policy. It is now an adopted policy of your State Society with which our members should comply. Physicians render valuable opinions and evidence to insurance companies when they make out these reports. Insurance companies benefit and profit from these reports and are enabled to adjust claims, often saving large payments or writing policies for poor risks. For this service physicians should be remunerated. The precedent is now established; insist upon and collect your just fee when you render this service.

There will be some company adjusters who will object. The advice is that you decline to fill the blank until your fee is paid. Other adjusters will argue that the individual benefited shall pay the fee. It is suggested that they be told to explain this to their policyholders at the time they sell them the policy. Again, there will be adjusters who will state that if physicians insist upon this course they will have to increase their rates and the burden is thus passed on to the policyholder. That is their worry and problem in their sale and renewal of policies. Other arguments and objections will be advanced to which no credence should be given. You are rendering a valuable service for which you are entitled to receive reasonable compensa-

tion. You become an "easy mark" if you fail to charge or collect.

FILING OF LICENSE CERTIFICATES

Our Michigan Medical Practice Act requires every licentiate under that act to file his certificate with the County Clerk in the county in which he locates. The Act further provides that when one relocates in another county he shall secure a certified copy of the certificate and file the same with the County Clerk of the county of his new location.

A goodly number of Michigan doctors have moved from their original locations. They have failed to comply with the above cited requirement. They are urged to comply at once with the law.

Our Medical Act also provides that assessing officers shall annually make a census of doctors in their assessment districts giving name, age, sex and years of practice of all doctors practicing in their districts and to file their census reports with the Secretary of the Board.

Within the past month assessing officers have been officially requested to comply with this provision of the law. Upon receipt of this census of doctors of the state it is purposed to check the list with the records of the Board of Registration. An investigation will follow of all those who have not complied with the law and such action will be taken as is deemed most advisable by the Board of Registration.

If you have moved from your original location and failed to re-register with the County Clerk in your new location please attend to correcting your error. Do it today.

MINUTES OF THE MEETING OF THE
JOINT COMMITTEE ON PUBLIC
HEALTH EDUCATION, HELD
AT THE MICHIGAN UNION,
ANN ARBOR, MONDAY,
NOVEMBER 4, 1929

There were present at this meeting the following representatives of the different member organizations specified below:

Michigan State Medical Society—Doctors John B. Jackson, F. C. Warnshuis, Angus McLean, J. E. Davis, and J. H. Dempster; University of Michigan—Doctors Huber, Cabot, Sundwall, Bruce, Isaminger, Henderson, and Mr. C. A. Fisher; Michigan State Dental Society—Dr. W. R. Davis, Lansing; Michigan Department of Health—Dr. Don M. Griswold; Detroit College of Medicine and Surgery—Dean

W. H. MacCracken; Wayne County Medical Society, Committee on Education—Dr. W. J. Stapleton, Jr.; Michigan State Nurses Association—Miss E. P. Robinson, Ann Arbor; State Department of Public Instruction—Miss Lera B. Curtis; Michigan State Conference of Social Work—Dr. Robert Haskell, Northville; American Red Cross, Michigan Division—Mrs. Elsbeth Vaughan; Michigan Hospital Association—Dr. H. A. Haynes.

In the absence of the President of the University, who is ex-officio chairman of the joint committee, Dr. Huber, Dean of the Graduate School, was called upon to preside. After the luncheon the following order of business was carried out:

1. Reading of the minutes of the last meeting, W. D. Henderson, secretary of the joint committee.

2. Report of the Health Education program for the current year, Mr. Henderson. The health education program, as sponsored by the joint committee, has shown a steady advancement from the beginning, both in the scope and the character of the work. This year ten new counties were added to last year's list of counties in which high school assembly programs were organized. An interesting feature of this phase of the work for the present year is the fact that a large number of centers outside of those already organized have written to the extension division asking for health lectures in connection with high school programs, and communications from the following places having been received up to date this year:

Alma	Manchester
Bad Axe	Marcellus
Big Rapids	Marne
Bloomington	Mayville
Britton	Melvindale
Coleman	Munising
Corunna	New Baltimore
Croswell	Okemos
Ferndale	Pentwater
Gables	Pinconning
Gwinn	Port Hope
Houghton	Richland
Howell	Roseville
Imlay City	St. Louis
Kenton	Stephenson
Lake Odessa	

As an evidence of the growth of the health education activities, the following comparison of the year 1928-29 with that of the year previous is submitted.

	1927-28	1928-29
Number of doctors and dentists taking part in the health program	112	151
Number of health lectures given to Parent-Teacher Associations and high schools	541	576

Average attendance on PTA lectures	137	170
Average attendance on high school lectures.....	295	278
Total estimated attendance.....	154,000	170,000

3. Report of Field Work, Dr. Isaminger. Last year health education programs were arranged in connection with high school assemblies in eighteen counties. This year the following ten counties were added to the list, making a total of 28: Allegan, Macomb, Ottawa, Muskegon, Manistee, Wexford, Grand Traverse, Leelanau, Livingston, and Washtenaw.

Dr. Isaminger reported that high school authorities are becoming more and more interested in the health program as sponsored by the joint committee. He also commended the doctors who have so generously given of their time in connection with these health exercises.

4. Report of the High School Essay and Poster Contest Program, Mr. Fisher, Assistant Director of the Extension Division. The essay and poster contest was inaugurated last year as an experiment, the idea being to arouse interest among the students in our health lectures. The essays were supposed to be written upon subjects presented by the doctors who gave the addresses. In the case of the posters greater liberty in the selection of subjects was allowed. Twenty-four schools entered the contest last year, submitting a total of eighty-seven posters and essays. The joint committee furnished the sum of \$100 to be divided into eight prizes, four for essays and four for posters. These prizes were awarded according to the rules established by the committee.

At the present time indications point to the fact that more than twice as many schools will enroll this year in the Poster and Essay Contest.

Mr. Fisher called attention to the fact that the number of requests for health education programs from centers outside of the counties in which regular high school assembly programs have been organized, was probably due in a large measure to the distribution of the Essay and Poster Contest Bulletin which was sent to all the schools of the state.

5. Report of the Publicity Committee, Dr. Bruce. In reviewing the newspaper publicity activities of this committee for the past two years Dr. Bruce stated that while at the beginning of the work he was rather skeptical as to the worth of the program, he is at present thoroughly convinced of its importance as an educational

factor. He has received inquiries concerning the project from many parts of the country. It is worthy of note that in connection with the publication of the hundreds of articles during the past two years and the thousands of questions answered, there have arisen only three criticisms of any special significance.

The receipts from February 1 to November 1 from publications carrying the health education column were \$1,763.50, which amount was deposited with the treasurer of the joint committee.

6. Report of the Treasurer. The financial report submitted by Dr. Warnshuis, treasurer of the joint committee, covering the period from February 1 to November 1, 1929, showed the following receipts and expenditures:

Receipts to November 1st.....	\$3,173.35
Expenditures	2,625.46

Balance on hand	\$ 547.89
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There existed in the minds of some members of the committee some confusion as to what constitutes the fiscal financial year of the joint committee. It was explained by Dr. Warnshuis that in the Medical Society the fiscal year begins February 1. The above report, therefore, covering receipts and expenditures, does not include the annual contributions made by the various member organizations to the publicity activities of the joint committee.

In connection with the treasurer's report the question arose as to the various sums pledged by contributing organizations. Mr. Henderson called attention to the fact that last year contributions were as follows:

Michigan State Medical Society.....	\$1,000.00
University of Michigan	500.00
Michigan State Dental Society.....	500.00
Michigan Tuberculosis Association	300.00
Michigan Hospital Association	100.00
Michigan State Nurses Association.....	100.00

\$2,500.00

The secretary moved that the treasurer be asked to communicate with the above named organizations, asking that the contributions be continued for the current year. Motion prevailed.

The secretary also moved that an expenditure of \$300 from the publicity fund be authorized in connection with the essay and poster program, with the understanding that \$100 be allocated for prizes and that \$200 be allowed for the publication of a special bulletin containing the prize essays and posters. Carried.

7. Report of the Committee on Lecture Outlines, Mr. Henderson. During the past

few years the lecture outlines have been prepared by two separate committees, one representing the Medical Society and the other representing the Dental Society. It was moved and carried that hereafter the lecture outlines committee shall consist of the following members: Doctors Cabot, Bruce, Sundwall, Dempster, Lyons, W. R. Davis, Thompson, and Henderson, the latter acting as chairman of the committee. Attention was called to the fact that the State Association of High School Principals had appointed a committee of three, consisting of Mr. G. E. Loomis of Big Rapids, W. C. Harton of Albion, and N. W. Chaffee of Saginaw, to confer with the program committee of the joint committee in connection with the matter of high school assembly programs. The plan of holding a joint meeting of the two above named sub-committees was approved.

8. Time and place of next meeting. It was moved by Dr. Warnshuis and carried that the time and place of the next meeting be subject to the call of the secretary.

W. D. Henderson, Secretary.

November 6, 1929.

STANDING COMMITTEES

President Brook and Speaker Pyle have appointed their committees for the current year. A list of these committees may be found in the front advertising section of each issue of the Journal. It is the earnest desire of President Brook that these committees shall function most actively. They are created for a purpose. Definite duties are delegated to each committee. The President and the House of Delegates rightfully expect that the work of these committees will reflect definite achievements during the current year.

MINUTES OF THE EXECUTIVE COMMITTEE

October 24, 1929

The Executive Committee of the Council convened at the Pantlind Hotel, October 24, 1929.

Present: R. C. Stone, Chairman

Henry Cook

James D. Bruce

George L. Le Fevre

B. R. Corbus

J. D. Brook, President

F. C. Warnshuis, Secretary,

and in addition Councilor Ricker and Editor Dempster attended the session.

1. Upon motion of Corbus-Bruce, the Secretary in consultation with the Editor were instructed to secure prices upon the publication of the volume of the History of the Medical Profession in Michigan and report back to the Executive Committee at its next meeting the bids that they have secured.

2. Upon motion of Corbus-Bruce, that place be immediately given in the Journal to advertising the History and that as soon as the cost of the volume is ascertained that subscriptions be solicited and County Secretaries requested to secure subscriptions among their members.

3. Upon motion of Le Fevre-Cook, the Secretary was instructed to renew the indemnifying bond of Treasurer Rogers.

4. Upon motion of Bruce-LeFevre, it was decided to hold the January meeting of the Council in Chicago on the morning of January 22, 1930, and that the first session of the Secretaries Conference be held at 6:00 p. m., January 22 and continue through the following day, January 23rd; that the Drake Hotel be designated as headquarters.

5. Dr. Bruce reported upon the conference that he had held with the Couzen's fund committee and that a pediatric clinic had been arranged to be held in Ann Arbor on November 26th. Upon motion of Corbus-Bruce, the Secretary was directed to request the Councilors to write to the officers of the County Societies in their district calling attention to this pediatric clinic and urging attendance.

6. President Brooks submitted the following appointments for the Standing Committees of the Society, which were approved:

COMMITTEE ON LEGISLATION AND PUBLIC POLICY

John Sundwall, Ann Arbor, Chairman.

Frank Kelly, Detroit

W. C. McCutcheon, Cassopolis

Earl Carr, Lansing.

J. B. Jackson, Kalamazoo.

COMMITTEE ON PUBLIC HEALTH

W. C. Ellet, Benton Harbor, Chairman.

George Southwick, Grand Rapids

A. L. Callery, Port Huron

H. M. Joy, Calumet

Philip Riley, Jackson.

COMMITTEE ON TUBERCULOSIS

J. S. Pritchard, Battle Creek, Chairman.

E. N. Nesbitt, Grand Rapids

S. Lojano, Marquette

B. A. Shepard, Kalamazoo

J. Wessinger, Ann Arbor.

COMMITTEE ON CIVIC AND INDUSTRIAL RELATIONS

H. S. Collisi, Grand Rapids, Chairman.

C. D. Munro, Jackson

L. O. Geib, Detroit

A. W. Hornbogen, Marquette

C. S. Gorsline, Battle Creek

R. H. Nichols, Holland

A. R. McKinney, Saginaw

H. F. Dibble, Detroit

G. M. Curry, Flint.

JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

J. E. Davis, Ann Arbor—To succeed Dr. A. P. Biddle of Detroit whose term expired and he requested that he be not reappointed.

7. Upon motion of Corbus-Bruce, that the local expenses incurred by the Women's Auxiliary at Jackson be paid from the funds of the State Society.

8. Upon motion of Le Fevre-Cook, that the question of legislative publicity be referred to the Committee on Legislation.

9. Upon motion of Bruce-Cook, that the action of the House of Delegates designating St. Joseph and Benton Harbor as the place for holding our

1930 Annual Meeting be concurred in and recommended to the Council for approval at its January session.

10. Upon motion of Cook-Bruce, that Dr. Stone and Councilor Boys be directed to attend the requested conference in South Haven at which the local hospital problem is to be discussed.

11. Upon motion of Le Fevre-Cook, that the Michigan State Medical Society act as host to the Officers and Members of the House of Delegates of the American Medical Association on Monday evening of the session that is to be held in Detroit in 1930.

The meeting adjourned at 10:45 p. m.

F. C. WARNSHUIS,
Secretary.

BERRIEN COUNTY

The Berrien County Society held their October meeting in the form of a post-graduate clinic arranged by the State Society on the 16th in the Hotel Vincent, Benton Harbor.

The papers started at 1:30 p. m. and continued into the evening with a dinner followed by a lecture given by Dr. Cramp, Secretary of the Bureau of Investigation of the American Medical Association.

There were about 50 present for the papers given in the afternoon by Doctors Camp and Collier of Ann Arbor and Dr. Nathan Davis, III, of Chicago. Owing to the lack of time but little discussion was allowed.

There were about 40 present for the dinner which was held in the Rose Room of the Hotel Vincent. A short business meeting was held immediately following the meal at which the delegate to the State Meeting in Jackson gave his report. Also an invitation was given by the Cass County Society to the members of Berrien to meet with them for the November meeting at Dowagiac. This invitation was accepted and the two societies will unite their meeting for that month.

The evening lecture given by Dr. Cramp was on "Fads and Foibles in Medicine" and dealt with an expose of the various so-called "patent" preparations. His talk was illustrated by slides showing the different advertisements of nostrums and their formula. The talk was extremely interesting and was well discussed. We regret very much that the lay public could not have heard this lecture.

The program in the afternoon was carried out exactly as outlined in the announcement carried in the October issue of the State Journal. It was an excellent arrangement and the attendance and attention brought forth enthusiastic comments on the part of the guest speakers and the members.

The Berrien County Society was visited by Doctors Kiefer, Barnes and McIntosh of the State Board of Health in October, who aided in presenting the new county health unit idea to the public and the County Board of Supervisors, this society previously having gone on record as in favor of such a unit being established in this county. The proposition was turned down by the Board of Supervisors on the grounds that it called for an appropriation and not in line with the economy program laid out for the coming year.

W. C. Ellet, Secretary.

LENAWEE CO.

The November meeting of the Lenawee County Medical Society was held at the Lenawee hotel in Adrian on the third. Eighteen members were

present. After a sumptuous dinner, a short business meeting was held, at which a committee of arrangements was appointed for the December meeting, at which Dr. George W. Crile is to be the guest of honor.

The speaker of the evening, Dr. Charles G. Jennings of Detroit, was then introduced by President Marsh. Dr. Jennings was accompanied by Dr. Wallace of Detroit, who assisted him with the lantern slides. Dr. Jennings' subject was, "Bronchiectasis." In his remarks, the essayist laid special stress on the points that the cure of bronchiectasis is prevention, and that it is usually caused by some infection of the upper respiratory tract. The subject was presented in the same lucid manner as was Dr. Jennings' custom when the writer was a student under his teaching of practice 27 years ago. Excellent lantern slides followed the verbal discussion. Due appreciation was expressed to Dr. Jennings by all the members present.

C. H. Westgate, Secretary.

MONROE CO.

Monroe County Medical Society held its annual meeting, October 17, 1929. The following officers were elected:

President—Dr. D. C. Denman, Monroe.

Vice-President—Dr. L. C. Blakey, Monroe.

Secretary-Treasurer—Florence Ames, Monroe.

Delegate—Dr. S. J. Rubley, Monroe.

Alternate Delegate—Dr. M. A. Hunter, Monroe.

Censor for Three Years—Dr. J. A. Humphrey, Monroe.

Censor for Two Years—Dr. R. T. Ewing, Monroe.

Censor for One Year—Dr. H. W. Landon, Monroe.

Two Directors—Doctors J. H. McMillin, Dundee, and H. L. Meck, Dundee.

Dr. John S. Orwig, graduate of the University of Michigan, 1928, now practising at 5 S. Monroe street, Monroe, was elected to membership.

Yours very truly,
Florence Ames, Sec'y.-Treas.

ST. CLAIR CO.

A regular bi-monthly meeting of the St. Clair County Medical Society was held, November 21, at the Harrington hotel, Port Huron.

Twenty members in attendance sat down to dinner, together with visitors from Sanilac and Lapeer counties.

One of the items of business was an effort to change the by-laws calling for bi-monthly meetings to one meeting a month. After discussion on the subject, the amendment was voted down by an overwhelming majority, the consensus of opinion being that the change to fewer meetings would reduce the interest of the members in their society.

Dr. Charles Jennings of Detroit then gave an able address on "Pneumonia," stressing therapy in particular. He gave the latest statistics obtained from the large eastern hospitals as to the incidence of the various types—their mortality rates, with and without the use of the newer serums now obtainable in the institutions.

In summarizing his address it was shown that the pneumonias of types one and two, are being aided by the serum treatment, but that types three and four are not as yet susceptible to any serum so far produced.

A general discussion followed the paper.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

APPLIED PHARMACOLOGY—A. J. Clark, B. A., M. D. Professor of Materia Medica and Pharmacology, University of Edinburgh. Third Edition. 530 Pages and 65 Illustrations. P. Blackiston's Son & Co., Inc. Philadelphia, Pa. Price \$4.00.

Pharmacology and therapeutics are usually taught not only as two different subjects but at different stages in the student's academic career. The author has endeavored to bridge the gap between the two. From experiments on laboratory animals we learn certain effects of drugs which is useful information. The really important matter which concerns clinical medicine is the effects of therapeutic doses of drugs on human beings who are suffering from disease. The author endeavors as far as possible to illustrate the action of drugs as manifest in the patient or human subject. The work is written in a clear and informative style. It is difficult to make a selection of subjects which are more interestingly treated. To select at random we have fifty-seven pages devoted to the pharmacology of the alimentary tract in which we have described the action of drugs upon salivary secretion, local and central emetics, the action of drugs upon gastric secretion and the movements of the stomach both in health and disease. The small and large intestine are also studied from the viewpoint of drug action. Each subject is prefaced by a review of the physiology of the organ. We know of no more rational work on the subject of drug action as studied in connection with physiologic as well as diseased conditions in man.

MINOR SURGERY—Frederick B. Christopher, M. D. Associate in Surgery at Northwestern University Medical School, Chicago. With a Foreword by Allen B. Kanavel, M. D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 pages with 465 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Price \$8.00 net.

A work on minor surgery if it is well written by a master is of major importance. Practically everyone practising medicine performs more or less minor surgery. Even the internist is not exempt. When we consider the great increase of accidents due to motor traffic and to the phenomenal growth of industries as well, the importance of minor surgery at once becomes evident. It must be borne in mind always that so-called minor surgery if not well done may become major surgery. Major surgery is not often attempted by those who have not special training and qualifications. We said, not frequently. Unfortunately there are those who rush in where angels fear to tread. Minor surgery, however, being to a certain extent of an emergency nature must be attempted by those whose regular work is not so as to keep them in practice with the scalpel. The present book contains twenty-four chapters. The scope of the work is indicated by some of the titles selected at random: Open and Closed Wounds, Foreign Bodies, Furuncles and Carbuncles, Burns, Injuries by Electricity, Circulatory Disturbances in Gangrene, Injuries and Infections of the Head and Neck as well as Trunk. The work is well illustrated by photographic reproductions and by line drawings. An interesting chapter is that on Minor Surgical

Technic. This work will be found to fill a useful place in the practice of surgeon as well as general practitioner.

THE CHALLENGE OF CHRONIC DISEASES—Ernst P. Boas, M. D. Attending Physician Montefiore Hospital for Chronic Diseases, and Nicholas Michilson, M. D., Adjunct Physician to same. Price \$2.50. The Macmillan Company, New York.

This work discusses a situation concerning that which comparatively little thought has been given up to the present time. The hospital takes care of the acutely ill but makes little or no provision for the long chronic case, with the possible exception of the tubercular patient. Alms houses and houses of refuge take care of the indigent who are well, but no special provision is made for the chronic sick. This little book tells how it is done in one institution, the Montefiore Hospital. The subject is discussed largely from the institutional viewpoint. The volume is commended to the attention of social workers and to others who are confronted with the problems, with which it deals.

AN INTRODUCTION TO THE STUDY OF HUMAN ANATOMY—Robert James Terry, A. B., M. D., Professor of Anatomy, Washington University, 346 pp. Macmillan Co., 1929, \$3.50.

Twenty years accumulated experience with the project method of anatomical teaching in the anatomical laboratory of Washington University medical school has been embodied in this work by Professor Terry. It is essentially a dissector, but it differs from other manuals in the absence of both illustrations and descriptions. It constantly suggests problems to the students which he can answer only from his dissections. He is encouraged to find the principal facts of anatomy from the cadaver rather than from his texts. Group research on variation of structure is constantly kept before the student as a modern method in anatomy, belying the ordinary supposition that descriptive anatomy has been entirely recorded in the textbooks. The admonition to verify and compare the form and position of organs is so completely carried out that this text should prove to be an actual contribution to medical pedagogies.

THE NUTRITION OF HEALTHY AND SICK INFANTS AND CHILDREN. FOR PHYSICIANS AND STUDENTS—C. Pirquet, E. Nobel and R. Wagner, all of the Children's Hospital of the University of Vienna. Second revised edition with 78 illustrations (including charts) and 6 tables. Authorized translation by Benjamin M. Gasul, B. S., M. D., Consulting Pediatricist at the Municipal Tuberculosis Sanitarium of Chicago. F. A. Davis Co., Philadelphia, Pa.

This book is a translation of the second edition of the German work and deals with the practical application of Professor Pirquet's "nem" system. It is intended for physicians and students, therefore nine-tenth of the space is devoted to the clinical aspects of nutrition. Von Pirquet uses a definite quantity of milk instead of the calorie as the unit of nutrition and the nutritional requirements are based on the body surface instead of the body weight. The unit is one gram of human milk which is called the nem and the

body surface is calculated by squaring the sitting height. In addition to the explanation of the nem system other theoretical aspects of nutrition are very clearly and concisely presented in the first twenty-five pages of the book. The remainder of the book is devoted to the practical aspects of nutrition and included in the topics dealt with are, the nutrition of the normal infant and child, nutrition of the premature, disturbances in nutrition, nutritional management of infectious diseases of myxedema, enuresis, anorexia, cyclic vomiting, nephritis, diabetes, obesity, epilepsy, anemia and goitre. There are many tables and charts which aid in the application of the system and the final chapter contains diet forms and recipes. This short book contains much valuable information on the subject of nutrition and should be very useful to the general practitioner even though he did not wish to use the nem system.

EDEMA AND ITS TREATMENT—Herman Elwyn, M. D., 182 pp. The Macmillan Company, New York, \$2.50.

Dr. Elwyn's book is essentially a compilation of the literature on edema rather than a record of original research. The physiology of water storage and exchange in the body is well treated, edema being considered as a local response to a disturbance in the concentration of the body sera. A nervous mechanism for control of water exchange is described. Attention is given the specific effects of electrolytes and hormones. Edema is then considered from the clinical aspect, particular attention being given the etiology and therapy of edema arising from cardiac failure, glomerulo-nephritis, lipoid nephrosis and chronic undernutrition.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS—George W. Norris, M. D., Professor of Clinical Medicine in the University of Pennsylvania, and Henry R. M. Landis, M. D., Professor of Clinical Medicine, University of Pennsylvania; Director of the Clinical and Sociological Departments of the Henry Phipps Institute of the University of Pennsylvania, with a chapter on the Transmission of Sounds Through the Chest, by Charles M. Montgomery, M. D., and a chapter on the Electrocardiograph in Heart Disease, by Edward Krumbhaar, Ph. D., M. D. Fourth Edition, Revised. 954 pages with 478 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$10.00 net.

This is the fourth revised edition of this well known and valuable work. It has been brought up to date and is well illustrated by new pictures of patients, cross-sections through the chest, diagrams and pathological specimens. As in other editions clinical methods of diagnosis are especially emphasized. A chapter on the transmission of sounds through the chest by Charles M. Montgomery, M. D., has been added and also one on the electrocardiograph in heart disease by Edward B. Krumbhaar, Ph. D., M. D., and there is a brief account by Dr. Lewis H. Clerf on the part the bronchoscope plays in the diagnosis of respiratory affections. Careful study of this book should do much to overcome a tendency to depend too much upon the laboratory in making a diagnosis.

THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month.) Volume 9, Number 5. (Philadelphia Number—October, 1929) 299 pages with 111 illustrations. Per Clinic year (February, 1929, to December, 1929.) Paper, \$12; cloth, \$16. W. B. Saunders Company, Philadelphia, Pa.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every month.) Volume 9, Number 3. (New York number—June, 1929) 299 pages with 125 illustrations. Per Clinic year (February, 1929, to December,

1929.) Paper, \$12; cloth, \$16. W. B. Saunders Company, Philadelphia, Pa.

MEDICAL CLINICS OF NORTH AMERICA—Volume 13, Number 2. (Chicago number, September, 1929.) Octavo of 232 pages with 61 illustrations. Per Clinic year, (July, 1929, to May, 1930.) Paper, \$12; cloth, \$16 net. W. B. Saunders Company, Philadelphia, Pa.

PRACTICAL MASSAGE AND CORRECTIVE EXERCISES WITH APPLIED ANATOMY—By Hartvig Nissen. Fifth edition, revised and enlarged by Harry Nissen, President, Posse-Nissen School of Physical Education, Boston, Mass. Illustrated with 72 original halftone and line engravings. F. A. Davis Co., Philadelphia, Pa. Price, \$2.50.

CLINICAL MEDICINE FOR NURSES—By Paul H. Ringer, A.B., M.D. Formerly Chief of Medical Service of the Asheville Mission Hospital, Asheville, N. C.; and on staff of Biltmore Hospital, Biltmore, N. C. Illustrated. Third revised edition. F. A. Davis Co., Philadelphia, Pa. Price, \$3.

DISORDERS OF THE SEXUAL FUNCTION IN THE MALE AND FEMALE—By Max Huhner, M.D. Third edition. F. A. Davis Co., Philadelphia, Pa. Price, \$3.

MOBILE RIGHT COLON

W. R. Houston, Augusta, Ga., reports the case of a patient, aged 20, a tall, graceful, vigorous, high-spirited girl, not markedly of enteroptotic habitus, who had always been well, not constipated, and fond of outdoor exercises, but while in France acquired an acute diarrhea that lasted a week. After this she was never well. On her return, she was pale, her eyes had a yellowish cast, her skin was muddy. She had no appetite, and she was uncomfortable after eating. Gastric acidity was low, and constipation marked. There was great tenderness over the cecum. Her most distressing symptom was a profound asthenia. Though her eyes were normal to tests, she could not read without pain. She had constant headaches and insomnia. A consultant advised appendectomy. At the operation there was disclosed a perfect example of Jackson's membrane sweeping over the whole ascending colon. The appendix was definitely pathologic. Its removal brought no alleviation of symptoms. Attempts to revise the medical management were made, but unavailing. Finally, the family insisted that a new operative method for colopexy be tried. The convalescence from the operation was slow but steady. After a year of invalidism the patient regained finally all her former vigor and has never been sick since. Since that time 145 colopexies have been done. These operations were carried out on only a very small proportion of the patients that had a mobile right colon. Twenty patients had had a previous appendectomy; some had had cholecystectomy, removal of a right ovary, or an operation for adhesions. There has been no operative mortality in the series. On the whole, the results have been satisfactory—considerably more satisfactory than the ordinary plastic operations of gynecology. Some patients, particularly those whose condition simulates chronic appendicitis, are immediately relieved of pain. Others in whom the neurotic habit is well established will require considerable postoperative medical management. After the colon is fixed the medical management is easier. The tendency to relapse after a cure is greatly lessened. Dyspeptic symptoms disappear. The pains that simulate gallbladder or duodenal disease subside. The asthenia is more readily combated. Most of these patients might have been successfully treated medically. A small proportion probably required surgical treatment. Some can scarcely be cured without surgery.—*Journal A. M. A.*

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McNaffziger	OCT 10 1930	OCT 13 1930
M. J. Brown	JAN 18 1931	JAN 5 1931
G. G. G. G.	JAN 24 1931	JAN 15 1931
Plots	AUG 16 1937	(9-1)
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